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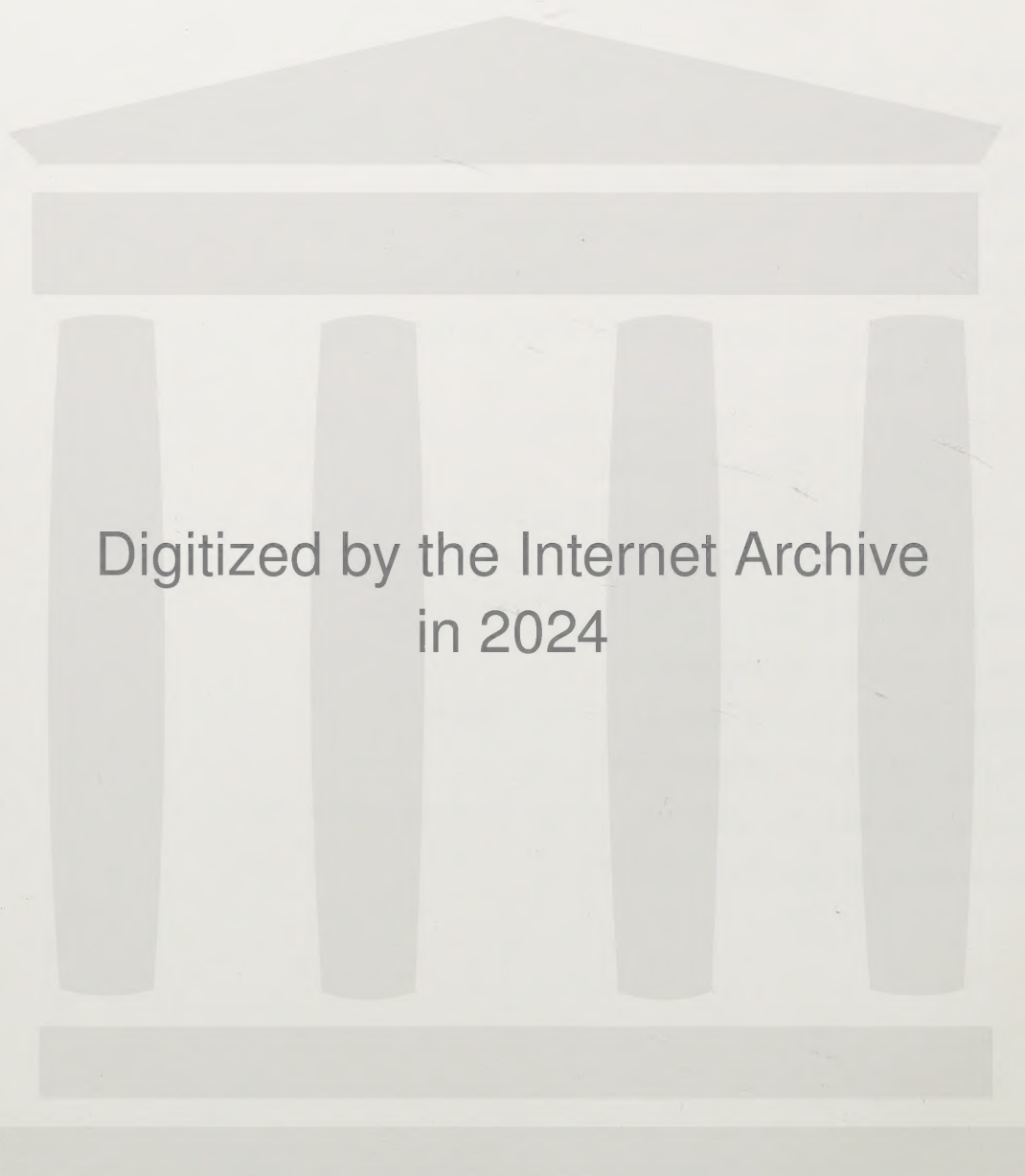
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EXCAVATIONS AT ISTHMIA

THIRD CAMPAIGN, 1955-1956

(PLATES 1-17)

THE first exploratory campaign at Isthmia by the University of Chicago Expedition in 1952 resulted in the discovery of the Temple of Poseidon. In the spring of 1954 the whole Temple area was completely excavated; and at that time the extent of the temenos of Poseidon was determined, the Theater was investigated, a large section of the settlement on the Rachi was uncovered, and a section of the Isthmian fortress was freed of its accumulation of debris.¹ The work in these areas, except in the Theater, was continued during the 1955-56 season.² A small-scale cam-

¹ For reports on the campaigns of 1952 and 1954 see *Hesperia*, XXII, 1953, pp. 182-195; XXIV, 1955, pp. 110-141; *Archaeology*, VIII, 1955, pp. 56-62.

² Financial support for the excavation came chiefly from a generous contribution by the Bollingen Foundation. As in previous campaigns, the members of the staff lived in the excavation houses at Ancient Corinth and used other facilities of the American School of Classical Studies at Athens. The Director, John L. Caskey, and Mrs. Caskey gave their full coöperation to the work throughout the year. The Greek Archaeological Service of the Ministry of Education was represented by Demetrios Pallas, who also took active part in the field work. To him, and to the Ephor of Antiquities, Nikolaos M. Verdelis, the expedition is indebted for their cooperation and help in many ways. We owe special gratitude to Professor A. K. Orlandos, through whose courtesy we obtained the use of a dump car and track belonging to the Greek Archaeological Society. We also used some equipment of the Corinth Canal Company, placed at our disposal through the kind offices of the Director General, Demosthenes Pippas, and the Director, Michael Mavromatos.

During the autumn campaign of 1955 the excavation on the Rachi was supervised by Chrysoula Kardara, that in the Temple Precinct by the author; the architect was Piet de Jong; and Julie Boegehold did inventories and secretarial work.

In the spring campaign the permanent members of the field staff were: Dorothy K. Hill, in charge of excavation in the ancient dump north of the Temple of Poseidon; William Donovan, supervising the work on the Rachi and in the southeast section of the Precinct of Poseidon; John Overbeck, in the Palaimonion area; Demetrios Pallas, in the Fortress of Justinian. Elizabeth Courtney and Françoise Rosen assisted with the field work for shorter periods. Patricia Donovan helped with secretarial work and did most of the inventories. Eunice Work, who devoted most of her time to the study of the coins from the 1954 campaign, also assisted with the work in the field. Sara Overbeck, Lula Logan Broneer, Lucy Turnbull, and Stella Vafiadakis rendered valuable service at various times during the year. The architectural drawings were made by George V. Peschke and Piet de Jong; most of the photographs were taken by Emile Seraf, the rest by the author of this article. The foreman was Evangelos Lekkas, whose long experience and efficient handling of all routine matters made for smooth running and efficiency in the field work. George Kachros, chief guard of the Museum at Ancient Corinth, cleaned coins and bronzes on hours when the Museum was closed to the public and assisted the expedition in many other ways. The mending and restoration of most of the pottery was done by Argyres Marines. Andreas Mavraganes

paigned in the autumn of 1955, from October 3 to November 28, was devoted to a testing of the ground in a large area preparatory to the more extensive excavation in the spring, which lasted from March 21 to May 26, 1956.

PRECINCT OF POSEIDON

NORTH TEMENOS DUMP.

During the alterations that took place from time to time within the temple precinct the debris from demolished buildings was disposed of in the gully north of the Temple, and on the sloping ground east of the sanctuary. The dump on the north side of the Temple has now been nearly completely excavated. In early times, prior to the destruction of the archaic Temple, *ca.* 475 B.C., a road with well-marked wheel ruts extended along the slope of the hill (Pl. 1, a). Its course, from north of east toward the southwest, was determined by the configuration of the terrain. After the destruction of the first Temple the area occupied by the road was turned into a dumping ground for rubbish from the building. Terrace walls were constructed at various levels to keep the earth from washing into the gully. The earliest and best-constructed of these has been laid bare for a distance of 8 m. near the northwest corner of the temenos (Pl. 1, b, center). Its preserved height is slightly over 2 m., its direction about the same as that of the archaic road. The blocks are large, some measuring over a meter in length, 0.70 m. in width and 0.60 m. in height. The exposed, northwest face is smooth, the other side is quite irregular. The wall seems to have been built in early classical times, possibly when the debris from the archaic Temple was dumped or perhaps even earlier. A short crosswall of somewhat lighter construction extends from the face of the longer wall toward the north. Both of these walls were interrupted and largely concealed by the heavy north temenos wall of the late Roman period (Pl. 1, b, left). Higher up the slope the 1954 excavations revealed two other retaining walls constructed for the same purpose.³ With the growth of the sanctuary the north dump extended further and further into the gully, until it reached a depth of nearly 7 m.

In Roman times, and perhaps earlier, the area of the north temenos dump was largely covered with an east-west wagon road, the surface of which appears at the top of the archaic fill in Plate 1, c. It ran in approximately the same direction as the archaic road, though at a higher level, but there is otherwise no real connection between them. At the west end of the area there was some building material from the

and his brother Spyros Mavraganes, released for a fortnight from their regular duties in the Excavations of the Athenian Agora, undertook the delicate and difficult job of restoring the *perirrhanterion*.

Preliminary studies partly covering the results of the 1955-1956 campaign have been published in *Archaeology*, IX, 1956, pp. 134 ff., and 268 ff.; and in *I.L.N.*, Sept. 15, 1956, pp. 430-431.

³ *Hesperia*, XXIV, 1955, pp. 118-119, pl. 46, b.

destruction of the fifth century Temple, which was much damaged in the fire of 394 B.C., but most of the fill consisted of debris from the archaic Temple. Hundreds of building blocks with the characteristic grooves for ropes on the under side,⁴ large quantities of archaic roof tiles, and red earth from the sun-dried bricks of the Temple walls made up the bulk of the deposit. Throughout this fill are well-marked layers of black earth (Pl. 1, c and d) containing bronze and iron objects, marble fragments and pottery, all earlier than the destruction of the Temple. Some of the building blocks have shallow cuttings in the top, probably for wooden planks used as reinforcement for the masonry. A few retain bits of the stucco with traces of painted decoration. The patterns seem to have been both geometric and naturalistic. The roof tiles are of the archaic variety, similar to those found on the north slope of the Temple hill in Corinth.⁵ No pieces of sima, antefixes or ridge palmettes were found, and we may safely conclude that none had existed. The eaves tiles were undecorated, but in the center of each tile was a triangular projection, alternating with the triangular profiles of the cover tiles. The cover tiles and pan tiles were made in one piece, with a total width of *ca.* 0.63 m. and a length of 0.65 m. The pan tiles were slightly concave. The cover tiles were curved on top, except at the eaves where they had an angular profile.

Underneath this area, at a depth of *ca.* 8 m., a large drain runs from west to east. One manhole was excavated in 1954; another, 30 m. further east, was cleared this season. It has a diameter of *ca.* 1 m. and is cut through solid rock, down to the level of the drain. No objects of any kind came from the fill, and the abundance of water in the drain prevented its complete clearance. Close to this manhole the Roman road is interrupted by a pit, measuring 4.08 x 3.06 m. in area and 0.65 m. in depth. Its floor and walls were lined with roof tiles of a type common in Roman Imperial times, and at the bottom was a deposit of pure clay, 0.25 m. thick. It had obviously served as a clay-pit, close to the manhole of the drain which provided water for the melting of the clay. It is unlikely that the clay was used for the making of pottery or tiles in an area so close to the Temple. More likely it served as binding material in the flooring within the sacred precinct or in the neighborhood.

ALTARS OF POSEIDON.

At various points east of the Temple of Poseidon we came upon a pavement made of smooth pebbles, the largest about as big as a man's fist. They were packed down in the earth without any kind of pattern, and without making a smooth surface on top. The most extensive area of this pebble pavement is located slightly south of the axis of the Temple, and *ca.* 23 m. to the east of the east façade. There are traces of two pavements, the earliest of which is a *ca.* 0.35 m. below the level of the later one. The fill between the two and directly above the top pavement contained animal bones and

⁴ *Ibid.*, p. 118, pl. 43, a.

⁵ *Ibid.*, pp. 149, 154-157; pl. 62, e, f, g.

ashes, some archaic pottery, and many bronze and iron objects. From this area came the painted pinax described on p. 35, No. 25. Although no altar of this early period was found, the nature of the fill indicates that the area had been used for sacrifices. Somewhere in the vicinity, we may assume, stood the altar that went with the archaic Temple.

East of the temple façade we uncovered a foundation which doubtless supported an altar of heroic proportions. Of the superstructure no recognizable pieces have been found. What remains is a well-constructed foundation of squared blocks preserved at its highest point in two courses (Pl. 2, a). The length of the foundation is almost exactly 40 m. and its width at the north end 1.88 m. Here it consists of two rows of blocks of unequal width with smaller stones filling the space between them. The blocks have deep shifting-notches and some have lifting holes near one end. Many of them appear to be re-used in their present position. Farther south the construction changes. The width is here only 1.74 m., and the two rows of blocks meet in the center without intervening stone fill. They are somewhat irregular in size so that the joint in the middle is far from straight. The blocks in this part of the foundation are less well cut than are those farther north. This type of construction continues to a point *ca.* 26 m. from the north end and here the foundation is broken off. The next 8 m. have been removed, leaving almost no trace on the rock. At the very south end the lowest course of the foundation is preserved for a length of *ca.* 4 m., and at the southeast corner part of a second course is *in situ*. Despite the unusual length of the foundation,⁶ there can be little doubt that it supported the chief altar of Poseidon.

Since the accumulation of earth is very slight and the blocks in most places rest directly on rock and virgin soil, no pottery or other datable objects were found in significant relationship to the foundation to help establish its chronology. Between the altar foundation and the temple façade there is a level area paved partly with hard clay flooring and partly with pebbles like those used in the sacrificial area farther east. The fill directly above the pebbles contained a few pieces of sixth-century B.C. pottery and a silver coin of undetermined date. It has not been possible to establish whether these objects were scattered on the floor before or after the construction of the altar foundation. Although the date is uncertain, we may tentatively assume that the altar which the foundation supported was in use during the time of the classical Greek Temple. It did not survive through the Roman period. Across the foundation run

⁶ A comparable example is the long altar foundation in front of the Temple of Zeus at Nemea, which is 40.58 m. long and 2.42 m. wide. See Carl W. Blegen, *A.J.A.*, XXXI, 1927, p. 422. Cf. Constantine G. Yavis, *Greek Altars*, p. 188. These are unusually large examples of altars connected with a temple. There are, of course, larger individual altars, like the Great Altar of Hiero II at Syracuse, which measures 194.95 x 20.85 m. (Cf. Koldewey and Puchstein, *Griechische Tempel*, I, pp. 70-74, II, pl. 10; and C. Yavis, *op. cit.*, pp. 189-190, fig. 47); the Great Altar of Zeus at Pergamon, *ibid.*, pp. 198-199, etc.

three well-marked roads (Pl. 2, a and b) which unite north of the northeast corner of the Temple and form a single road, continuing almost due west (see above p. 2). The southernmost of the three roads, which cuts across the altar foundation diagonally a little to the north of the axis of the Temple, was in use over a long period. The ruts through the foundation reach a depth of 0.25 m. The three roads, all avoiding the corner of the Temple (see plan, Fig. 1), were in use while the columns were still standing; they are earlier than the earliest Roman temenos walls, to be described later. Since the altar had been removed before these roads came into use, its destruction took place at a comparatively early date, probably before the beginning of the Roman era. Possibly this event should be connected with the change of management of the Isthmian Games, after the destruction of Corinth under Mummius in 146 B.C. For the next hundred years, while Corinth lay in ruins, the Sikyonians were in charge of the games, but after the founding of the Roman colony under Caesar the Corinthians resumed control.

The successor to the long altar may be recognized in a heavy foundation, 19 m. farther east and *ca.* 5 m. to the south of the long axis of the Temple (Pl. 2, c and d). It measures *ca.* 10 m. from north to south and 8.20 m. from east to west, and is made with a solid core of *opus incertum* extending to a depth of nearly 3 m. The highest point of the foundation was visible above the ground before the excavations began. Surrounding the rubble core is a row of well-cut building blocks, preserved on the south, east and west sides, but missing on the north. The blocks are large, some having a length of nearly 2 m. On all three preserved sides there is a well-marked setting-line, *ca.* 0.45 m. from the outer edge. Apparently a single course, no stone of which is preserved, was set back along this line, thus forming the second of two steps round the building. No pieces of the superstructure have been identified.

West of the Foundation for the second altar, facing the Temple of Poseidon, there was a large paved area, *ca.* 6 m. wide and some 15 m. long. It may have been originally floored with marble slabs, but only the mortar bedding was found partly preserved. This overlay the pebble flooring of the early sacrificial area and thus had to be partly removed to expose the earlier remains. The identification of the rectangular foundation as the second altar of Poseidon rests in part on its location—in front of the Temple, though not on its axis—and partly on the pavement close to the foundation and facing the Temple. The type of structure, with steps surrounding the solid core of concrete, would be suitable for a monumental altar. This altar, too, was destroyed before the end of the Roman era. The front wall of the east stoa (see below, p. 8), which is the last of the precinct enclosures and seems to date from the second century after Christ, was laid over the altar foundation after the blocks had been removed at the north end (Pl. 2, d). Presumably a new altar was constructed at that time, but none of the foundations laid bare in our trenches can be identified with it.

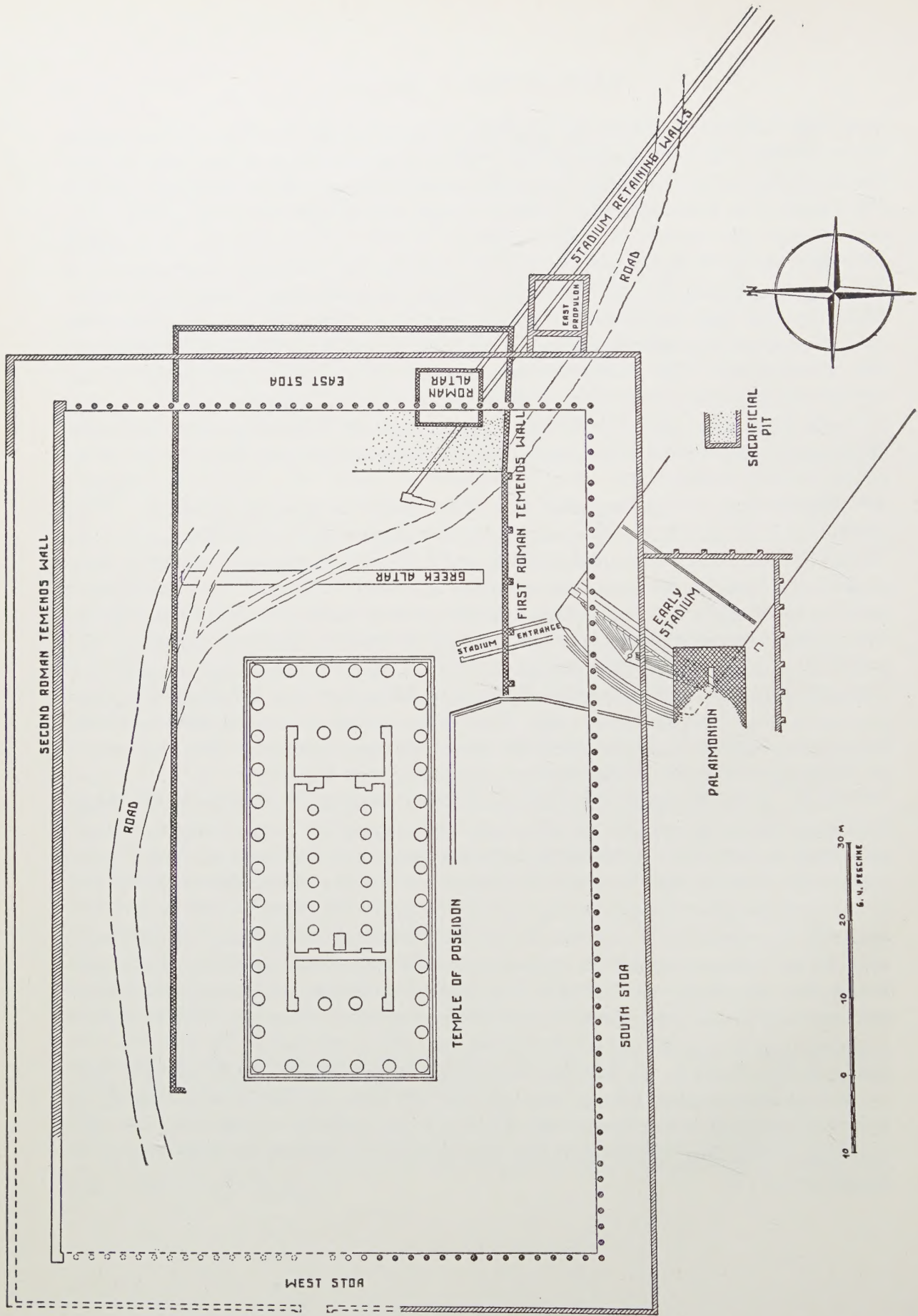


Fig. 1. Sanctuaries of Poseidon and Palaimon, Restored Plan.

TEMENOS WALLS.

The Temple of Poseidon was probably from its earliest period surrounded by a temenos enclosed by walls, but little remains of the walls from the Greek period. On the north side an early wall that can be traced for a distance of 15.50 m. was laid bare in the campaign of 1954. It does not run parallel to the Temple, but at an angle from northeast to southwest, following roughly the line of the archaic road. A wall at the east end of the temenos, which runs very nearly at right angles to the wall on the north side, has been exposed for a distance of 2.50 m. and some cuttings in the rock, 20 m. farther to the north, indicate that it probably connected with the north wall. Although the orientation of these walls is very different from that of the Temple of Poseidon, it seems likely that they formed part of an early temenos, which would not have been rectangular in shape.

After the reorganization that probably took place subsequent to the founding of the Roman Colony of Corinth under Caesar, the temenos at first appears to have been very small. On the north side a foundation runs parallel to the Temple at a distance of 9 m. from the north flank (Fig. 1). It has been traced toward the west to a point opposite the northwest corner of the Temple, and here a poorly preserved wall runs at right angles to the east-west wall toward the Temple. This probably does not mark the west end of the temenos, but beyond this point the east-west wall did not appear in our trenches. Toward the east the foundation of the wall has been exposed 3.50 m. beyond the long altar. A terracotta water pipe with a diameter of 0.13 m. runs along the south side of the foundation. On the south side of the Temple there is a corresponding wall, which has been exposed for a distance of 48.50 m. (Fig. 1). Here a part of the first course of building blocks is preserved. The wall had a thickness of 0.80 m., and at intervals of *ca.* 6.70 m. it had buttresses on the south side, indicating that the ground level was lower on that side than within the temenos area. This wall extends eastward for a distance of 42 m. from the east façade of the temple, and there turns north to form the east temenos wall. It encloses the area of the second, i. e. Roman, altar of Poseidon described above. Its foundation is constructed in a technique which differs from that of the other Roman foundations of the area. After a foundation trench had been dug through the deep fill, a row of stones, each small enough to be readily portable, was laid down, and above it a deep layer of lime mortar was spread. Then a second row of stones and chips was laid, and covered with a thick layer of mortar. The process was repeated to the top of the foundation. This peculiar technique (Pl. 3, a) appears only in the foundation of this wall and its extensions. At one time, probably during construction of the wall, the temenos was enlarged by a southward extension, *ca.* 5 m. wide. This first Roman temenos wall seems to have been built while the second altar of Poseidon was in use. The distance from the south temenos wall to the south end of the altar is only 3 m., and on the east

the distance between the two is *ca.* 5 m. The "layer-cake" technique of the wall foundation does not occur in the foundation for the altar, which may be earlier than the wall. On all sides of the Temple have been found poros blocks resembling engaged half-columns set against a pier (one is visible near the lower right corner in Pl. 2, c). These may have been used as coping stones for the temenos wall of the first Roman period.

The west end of the south temenos wall abuts against another enclosure, probably of earlier date. This extended clear across the temenos from the Temple of Poseidon to the rear wall of the later south stoa (Fig. 1). At its north end it connects with a stone curb running parallel to the south flank of the Temple. The north-south arm of the wall makes two obtuse angles, and the area west of the wall appears to have been paved. Only the rubble bedding of the pavement is now preserved. The terrain here sloped gradually from west to east and the wall seems to have been used to support a terrace, marking the line between the lower area on the east and the higher area farther west. Another foundation (visible in Plate 5, b, a little left of center) of heavy construction runs north to south, approximately on the line of the east façade of the Temple. It begins *ca.* 8 m. from the south flank of the Temple and can be traced for a distance of *ca.* 18 m. toward the south. It is preserved in two courses, the upper one having a width of *ca.* 1.25 m.; the lower course, projecting 0.39 m. toward the east, forms a step. Apparently this wall also was constructed to support a terrace along the edge of the higher area toward the west. Both of these north-south walls are earlier than the first Roman temenos wall with the buttresses.

In the second Roman period the temenos of Poseidon was greatly enlarged, and stoas were constructed facing the Temple on the south, east and west (Fig. 1). They were *ca.* 7 m. deep, of the Ionic order, and built of a grayish marble of brittle consistency. A similar stoa, which was never built, seems to have been planned for the north flank. The foundation for the columns of the east stoa, as stated above, extended across the foundation for the second altar of Poseidon, the top of which has been dressed down along the line of the colonnade. In the southeast corner a heavy foundation, measuring 10.50 m. from east to west, and 8.30 m. from north to south, extends eastward from the rear wall of the east stoa. A cross-wall runs between the two east-west walls, 2 m. to the east of the stoa wall. This structure (Pl. 3, b) can only have been a propylon, probably the principal entrance way, by which Pausanias reached the precinct of Poseidon. In this part of the excavations almost no blocks from the superstructure of the stoas or from the propylon were found. All seem to have been sacrificed to make lime mortar and building material for the Isthmian wall and fortress of Justinian's time.

The stoa intended to close the north flank of the temenos would have crossed the gully that was used as a dump for the debris of the earlier Temple. In the west half of the temenos, where the fill was deep, the foundation for the colonnade is slightly

over 2 m. thick. A vaulted tunnel ⁷ was here constructed to carry off the water through the gully underneath the stoa. The rear foundation would have had to be built to an immense depth in order to support the fill necessary to raise the ground to the level of the temenos along the north flank of the Temple. Although the trench for this wall was dug and some stones were laid in place at the west end, it seems unlikely that the wall was ever built. Instead a temenos wall was constructed along the outer, north edge of the foundation intended for the stoa colonnade. This wall, which is built of small stones, rough-cut to resemble brick construction, seems to have been an after-thought. The wall does not rest on the center of the foundation, but projects over its outer edge, showing that the heavy foundation was not constructed specifically as support for the wall. The rebuilding of the temenos with its immense stoas may have been undertaken at the expense of Publius Licinius Priscus Iuventianus, the High Priest of Poseidon, whose munificence was immortalized in two inscriptions set up somewhere in the Isthmian sanctuary. The available evidence indicates that these changes were carried out in the second century of our era.⁸ Below the foundations of the temenos walls, of both the earlier and the later Roman periods, runs the road from southeast to northwest which crosses the foundation for the long altar of Poseidon. The sides of the road are lined with stones, and in places deep ruts have been worn through stones that existed before the road was laid (Pl. 2, a and b).

A remarkably large number of water pipes cross the excavated area at all levels (Pl. 3, b and c). Most of them run parallel to the Temple, with a decided down-slope toward the east, but some run from south to north. The earlier pipes are all circular in section and constructed in the customary fashion with joints made tight with mortar. Some of the later channels are rectangular in section and covered with broken tiles and bricks. Two of the channels, encountered only a few inches below the present ground level and apparently dating from post-classical times, appear not to have been covered at all (Pl. 3, c). One is lined with roof tiles of a type still in use and laid with the concave side up; the other, and latest of the series, was cut out of poros blocks. All these conduits probably led water from the fountain ⁹ which has given its name to the village of Kyras Vrysi. It is located at the distance of some 500 m. southwest of the Temple of Poseidon.

⁷ See Harold N. Fowler, *Corinth*, I, Introduction, pp. 69-70, fig. 35; R. J. H. Jenkins, *B.S.A.*, XXXII, 1931-32, p. 84. It was formerly thought that the tunnel was connected with the Temple of Palaimon.

⁸ *I.G.*, IV, No. 203; *Hesperia*, VIII, 1939, pp. 181-190. See below, p. 23, Inscription No. 3.

⁹ For its location see plan (lower left corner), *Hesperia*, XXIV, 1955, pl. 41 a.

THE EARLY STADIUM

Underneath the complex of Roman foundations to the south and east of the second altar of Poseidon run two parallel walls of good Greek construction, oriented from northwest to southeast (Pls. 3, b and d; 4, c). They have been traced in trenches as far as the modern road, a total distance of nearly 80 m. (Fig. 1). The outer, northeast, of the two walls is preserved at one point to a height of five courses, 1.89 m. Each course is stepped back (Pl. 4, c) so that the outer face of the top course is set back *ca.* 0.80 m. from that of the bottom course. The exposed side of the wall was on the northeast; on the other side the courses overhang so that, if the fill between the two walls were removed, the upper courses of the northeast wall would topple over. The builders of the altar removed a section of this foundation, which now seems to abut against the concrete foundation of the altar. The wall must have extended farther toward the northwest, but how far cannot be determined; it does not reappear on the west side of the altar. Close to the altar the top of the wall has been broadened by the insertion of two L-shaped blocks, which fit over the stepped face of the wall so as to form a surface at the top, 1.15 m. in width and 1.05 m. in length. This probably served as a base for a statue or monument of some kind. The space between the two parallel walls at this height is *ca.* 2.14 m. wide, but at the bottom of the walls it widens to almost 2.50 m. The inner, southwest wall is here preserved to a height of only two courses. It, too, has been cut off by the foundations for the altar, but reappears on the west side and extends 11.50 m. toward the northwest (Pl. 3, d). Most of this stretch is preserved only in a single course, but the joints rest on heavy blocks inserted underneath the wall blocks. At the northwest extremity the wall ends against a large rectangular block, measuring 1.35 x 1.00 m. in area. This forms an acute angle with the line of the wall, and from it three smaller blocks extend toward the south where they terminate at the edge of the road described above (Fig. 1). At intervals the inner wall has buttresses on both sides. The space between the two walls, where it has not been disturbed by Roman constructions, is filled with stones and earth, and a stone fill packed against the inner wall extends for a considerable distance toward the southwest. This stone fill, which slopes gently toward the southwest, and the stepped-back character of the outer wall indicate that they served as retaining walls for a long embankment, the purpose of which will appear from our description of the southeast area.

In the autumn of 1955 we dug several trial trenches in the southeast corner of the precinct of Poseidon, where Pausanias' description led us to look for the Temple of Palaimon. In the largest of the trenches, at a depth of *ca.* 1.50 m., we came upon a smoothly-packed clay floor (Pl. 4, d) which covered the whole area of the trench, and at the south end the edge of a poros pavement appeared beneath the clay. In order

to reveal the underlying structure we removed part of the clay flooring and eventually uncovered all the poros pavement except for small patches left to show the original condition. The pavement is triangular in shape; it has a total length at the base of 10.07 m., and a width of 2.98 m. at the apex of the triangle. It is made of slabs, 0.15 m. thick, of different sizes, and along the base of the triangle runs a narrow border, 0.24 m. wide and *ca.* 0.23 m. thick. At the broad end there is a pit, 0.53 m. in diameter and *ca.* 1 m. deep. In the top of the pavement are eight grooves, the ends of which form a circle, roughly concentric with the pit, at a distance of *ca.* 0.53 m. from its rim. The grooves are triangular in section and measure *ca.* 8 mm. in width at the top, and 12 mm. in depth. From the pit they fan out toward the base of the triangle; their lower ends are nearly evenly spaced, *ca.* 1.05 m. apart. At either end of each line there is a bronze staple, fastened with lead to the poros pavement (Pl. 4, a). The staples bridge the grooves in such a way that a cord passing through the loops could be moved freely back and forth below the surface of the poros slabs. At the ends of the grooves farthest from the pit there are vertical cuttings through the base course, measuring 0.08 x 0.035 m. and extending through the whole thickness of the course (Pl. 4, b). They are very carefully made, at nearly equal distances of *ca.* 1.05 m. from each other, the center of the holes being marked with a scratch line. All these cuttings come almost, but not quite, opposite the ends of the grooves. In one case, near the broad end of the triangle, there is no corresponding groove for the cutting. The lengths of the grooves are indicated in Figure 2. Some of the grooves show interesting relationships to each other. Groove VIII measures almost exactly one-third of groove IV and groove VII measures half of groove IV; thus VII and VIII are in a ratio of two to three.

The puzzling structure just described aroused much speculation when it was first discovered, and a variety of explanations were suggested. When the whole area was cleared in the spring campaign it was found that the triangle uncovered in the trial trench was one-half of a larger triangle (Pl. 6, a). The slabs of the southwest half had been removed for a distance of *ca.* 4 m. from the apex, and the end of it was partly buried beneath a Roman foundation, through which we cut a tunnel to reveal all the existing slabs. Enough of the pavement in this half is preserved to show that it contained eight similar grooves with the same spacing at the lower ends. We can thus restore a gable-like pavement of thin slabs with a heavier course along the base, and with a circular pit on the median line. Over the whole area lay the hard clay flooring, *ca.* 5 cm. thick. The rear wall of the south stoa extended across the southwest half of the triangle, and it is clear that the missing slabs were removed when the foundation for this wall was laid. No recognizable fragments of the removed slabs were found in the excavations. West of the triangular pavement the original ground level rose rather steeply to a height of *ca.* 1 m. above the pavement. The edge of this slope has been cut back in a series of three steps which follow a broad curve

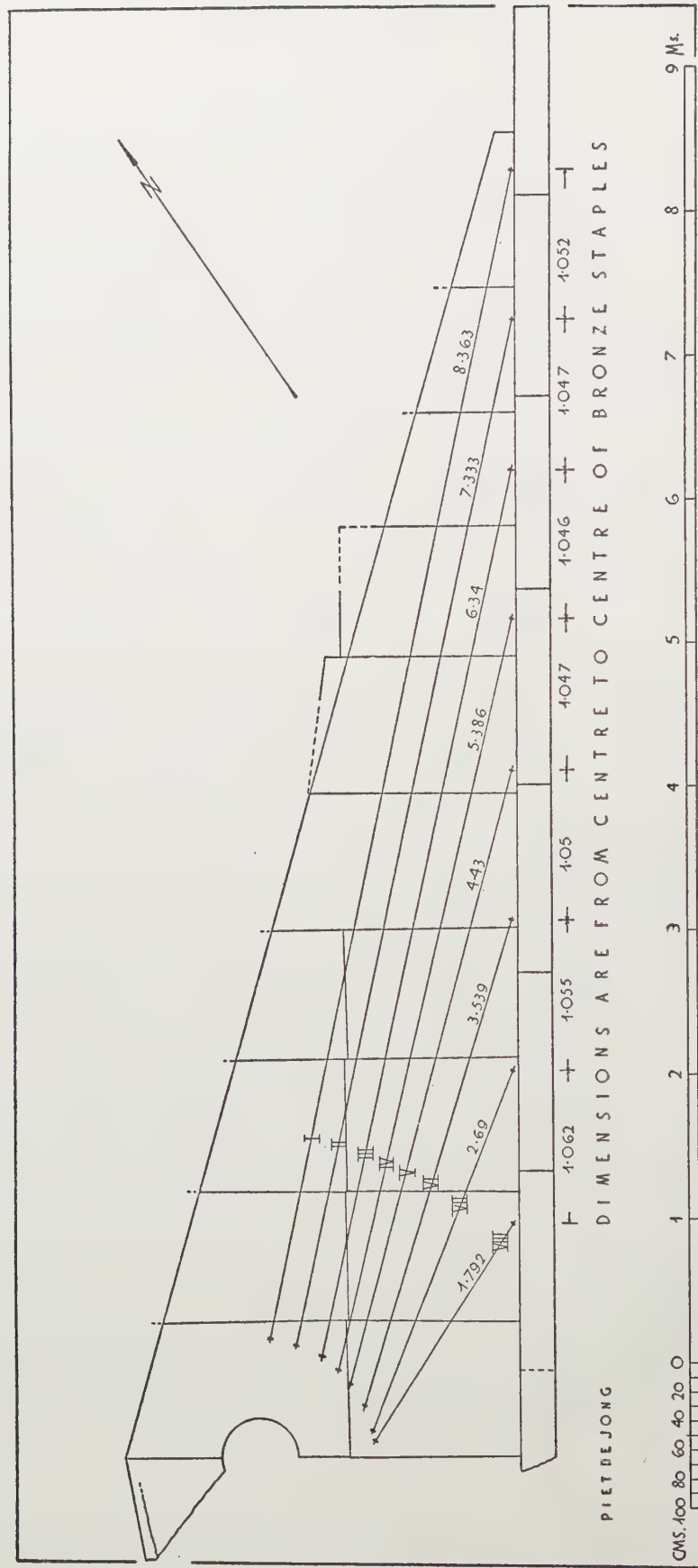


Fig. 2. Triangular Pavement, Northeast Half.

roughly corresponding to the sloping lines of the triangle (Pl. 5, b). At the bottom of the lowest step there are two water channels (Pl. 4, e, top), running almost parallel, one at a level *ca.* 0.20 m. above the other. At the south edge of the excavated area they disappear beneath the Roman foundation. Near the right end of the triangle the upper channel drops abruptly to the level of the lower, and the two channels join to form a single conduit (Pl. 5, a). At a distance of 2 m. beyond the juncture, the single channel makes an obtuse angle toward the southeast, then extends in a straight line for a distance of *ca.* 3.50 m. Here it empties into a cement-covered stone basin (visible in Pl. 4, b) measuring 1.02 m. x 0.73 m. in area, and 0.40 m. in depth. The southeast edge of the basin was broken away, but the fragments from the rim found within the basin made it possible to restore the missing parts. From this basin the channel continued toward the southeast.

At the point of juncture of the two channels a gently sloping ramp led from the paved area toward the Temple of Poseidon (Fig. 1). The clay flooring covering the poros pavement extended clear across the channels, which were here covered with slabs, and continued up the ramp. A retaining wall along the west edge of the ramp is still preserved and there are cuttings for a wall on the other side. The ramp, nearly 2 m. wide, terminated in a gateway, *ca.* 5 m. south of the southeast corner of the Temple. Three cuttings in the rock show the position of the gate and the nature of the cuttings indicate that the gate posts were of wood, and were probably made so that they could be readily removed and replaced.

From the southeast corner of the Roman foundation overlying the poros pavement a well-cut water channel, similar to that described above, extends in a straight line toward the southeast (Pl. 5, c). It has been traced in trial pits for a distance of 40 m. We may assume that it passed through a basin like the one preserved at the opposite end of the poros pavement, but this was probably destroyed when the Roman foundation was laid. East of this foundation, 10.70 m. to the southeast of the base of the triangle and running parallel to it, there is a stone sill covered with cement. Through the middle runs a groove, triangular in section (Pl. 5, c) and measuring 0.06 m. in width at the top and 0.04 m. in depth. There are vertical postholes at intervals, measuring 0.076 m. on the side, and extending to the depth of some 0.25 m. Two pairs of holes are spaced *ca.* 1.59 m. apart; the others are now somewhat irregularly spaced. These holes, obviously intended to hold upright posts, are encased with lead from the top all the way down.

Although there is only one groove in the sill,¹⁰ it is obvious that this is a starting line of a stadium, the closed end (*sphendone*) of which is preserved in the curving seats and water channels northeast of the triangular pavement. The starting line

¹⁰ In the paradromis of the Gymnasium at Delphi there are two similar starting lines, one at either end of the area, with single grooves and post holes, as at Isthmia. See Jean Jannoray, *Fouilles de Delphes*, Tome II, *Le Gymnase*, pp. 46 ff., pls. III, VII, XXII.

does not appear to be in its original position. At one point the sill is interrupted by a poros block which has no groove and was not covered with cement, and the south-west end is broken off in a rough line, at the distance of 0.31 m. from the water channel. Moreover, in its present position it seems unduly far from the curved end of the stadium. The original position was probably nearer the triangular pavement. At a distance of *ca.* 0.80 m. from the edge of this pavement, the clay flooring is interrupted along a broad strip, *ca.* 0.90 m. in width, running parallel to the base of the triangle and to the starting line with a single groove (it is clearly visible in Pl. 5, b). If the starting line was originally at this point, as seems likely, it must have been removed to its present position after the clay flooring had been laid down, since this does not extend over the filling of the trench. We can thus recognize three periods in the history of the stadium. The first is represented by the triangular poros pavement. Presumably the double water channel belongs to this period; the way in which the poros pavement fits against the water basin seems to show that the two are contemporary. In the second period the starting line was probably in the position indicated by the removed foundation. The poros pavement and the whole floor of the stadium was at that time covered with the clay flooring.¹¹ The third period is represented by the removal of the starting line to the place where it is now found.

At the edge of our trench near the exposed end of the starting line, there is a large block (visible in Pl. 5, c, left), apparently in its ancient position, its northeast face parallel to the water channel. The stone is 1 m. long and 0.40 m. high; and its bottom is approximately level with the top of the channel. The position of the block at this place in the stadium near the starting line would indicate that it was used as a seat, perhaps reserved for one of the judges or directors of the games.

The identification of the building as a stadium explains the use of the two parallel walls described above; they are the retaining walls along the outer edge of the embankment upon which spectators stood or sat during the games. It also furnishes the explanation for the mysterious grooves in the triangular pavement within the frame of agonistic performances. If we are right in assuming that the starting line with a single groove did not exist in the earliest period, we may conclude that the mechanism represented by the grooves and cuttings in the pavement served the purpose of a starting line at that time. The vertical cuttings opposite the lower ends of the grooves would have held upright posts, forming the frames for the gates which could be opened and closed to start the runners on their course (Pl. 5, d). Cords passing through the staples and up the vertical posts could be pulled or slackened to close or open the wickets at desired intervals. These would consist of simple horizontal bars (*balbides*), hinged to one of the posts and held in horizontal position by the cord.

¹¹ This is doubtless similar to the "white earth" stipulated for use in the Gymnasium at Delphi. See Jean Jannoray, *op. cit.*, p. 88.

A man stationed in the pit could singlehandedly manipulate all the sixteen gates (Pl. 6, b). The operation is described in scholia on Aristophanes.¹² It probably proved unnecessarily cumbersome, and eventually the pavement was covered up. A more normal starting line then took its place. It may be of significance that the distance indicated between posts in the later starting line is very nearly one and a half times the distance between the posts at the base of the triangle. The ramp at the north edge of the area can now be explained as the formal entrance into the stadium for athletes and officials at the opening of the games (for the relation of the race course to the Temple and Altar of Poseidon see Figure 1). Along the line of the water channel, between the ramp and the basin, there are three stones at intervals of *ca.* 1.25 m. in which are sockets for upright posts. These may have been used to hold banners brought by visiting delegations to the Isthmian Games.

THE PALAIMONION

The stadium described above fell into disuse not later than the beginning of the Roman era. It may have been abandoned at the time when Altar I of Poseidon was demolished (see above p. 5). Directly above the clay flooring of the race course we discovered a wagon road with very hard road metal extending over the starting line from east to west (Pl. 5, c, center). In early Roman Imperial times, a heavy foundation of *opus incertum* was laid down over the southwest corner of the stadium. The width of the foundation is 7.50 m. and its preserved top is 1.85 m. above the level of the clay flooring. Only the rough core is preserved, but on the outside it retains impressions from the stone blocks that lined the masonry on all sides. There are indications of steps at the east end leading up to the floor level. Only a small part of the foundation has been exposed, the rest is concealed beneath a private garden (Pl. 7, a). In the middle of this massive construction there is an opening, now 1.75 meters wide, at the bottom of which is preserved the first course of the stone lining which reduced the passage to a net width of 0.73 m. In the tunnel which we cut through this foundation in order to expose the southwest end of the triangular pavement (see above p. 11), the wall lining the inner passage was partly revealed, and here it makes an obtuse angle toward the northwest. What is preserved of this passage seems to be the entrance to a basement room which grows wider toward the west. This is all that we can learn from the exposed remains without further excavation.

¹² *Knights*, 1159: βαλβίς δὲ καλεῖται τὸ ἐν τῇ ἀρχῇ τοῦ δρόμου κείμενον ἐγκαρσίως ξύλον, ὃ καὶ ἀφετηρίαν καλοῦσιν. ὅπερ μετὰ τὸ ἐτοιμασθῆναι τοὺς δρομεῖς εἰς τὸ δραμεῖν, ἀφαιρούμενοι ἀφίσταν τρέχειν. Such elaborate starting gates would hardly have been necessary for the final races, in which all the runners would have started at one time. It was probably invented for use at preliminary heats, by which the competitors for the finals were determined. See Pausanias VII, xiii, 4; E. Norman Gardiner, *Athletics of the Ancient World*, p. 136.

This interior passage may give us the clue to the identification of the building. Pausanias informs us that the sanctuary of Palaimon was equipped with an underground chamber in which the body of the boy-god was buried.¹³ Those who descended into this chamber to take an oath in the name of the god could in no way escape punishment if they became guilty of perjury. On the basis of this description we are justified in identifying the building as the Palaimonion of Roman times.¹⁴ Further evidence for this identification comes from objects found in the fill directly in front of the foundation. A peculiar type of lamp, not found elsewhere in Greece, occurred in large numbers at all levels, from *ca.* 0.50 m. below the present ground level down to the clay flooring. Many of these lamps were found standing right side up (Pl. 7, b) and some were quite unbroken. They have the form of a deep bowl, *ca.* 0.18 m. in diameter, in the center of which is a circular socket to hold the wick (Pl. 15, b, *a* and *b*). Since they had no handles they were not intended to be carried about. They were probably specific cult vessels in the worship of Palaimon. Many smaller, portable lamps (Pl. 15, b, *c-e*), mostly of the wheelmade variety, Type XVI, and some imported relief lamps, were found together with the cult lamps. The area in front of the Temple was doubtless illuminated during the nightly ceremonies of the hero. The cult lamps would have been set out on the ground while the smaller lamps were carried by the worshipers.¹⁵ These lamps, and some pottery and coins from this area, date the fill to the first century after Christ. The Temple can hardly have been erected before the time of Augustus, and by the end of the first century after Christ the ground level had risen *ca.* 1.30 m. above the clay flooring.

The Temple, with its cult area on the east, was enclosed within a temenos wall. When this was constructed the ground level was about 1.25 m. above the clay flooring. The south and east walls, which have been partly exposed, are stuccoed on the side facing the Temple, and in the rear they have buttresses at intervals of *ca.* 3.30 m. (Fig. 1). The east wall seems to have abutted against the rear wall of the south stoa, which may have been constructed at about the same time as the temenos wall, in the second century after Christ. The south stoa wall is entirely missing at this point, but the line of its foundation is indicated by a trench through the clay flooring,

¹³ It is not clear from Pausanias' account (II, ii, 1) whether the crypt, *ἄδυτον καλούμενον*, was in the basement of the temple or in a separate building. Cf. E. Will, *Korinthiaka*, pp. 172, 184 ff. On coins of Corinth from imperial times a circular building, which has been identified as the Temple of Palaimon, shows an opening in the foundation apparently giving access to a room in the basement; see Imhoof-Blumer and Gardner, *Numismatic Commentary on Pausanias*, p. 11, pl. B, XI-XIII; E. Will, *op. cit.*, p. 171.

¹⁴ The apparent discrepancy between a rectangular foundation, as revealed by our excavation, and the circular building shown on the coins may be resolved by further excavation.

¹⁵ Plutarch, *Theseus* 25, informs us that the *agon* in honor of Melikertes was held at night and had the character of a mystery celebration (*τελετή*) rather than that of a spectacle or public gathering.

and by the removal of some of the slabs in the southwest half of the triangular poros pavement. In the fill of this trench were found two inscribed statue bases (see below, pp. 22-23).

At a distance of 27 m. to the east of the Palaimonion we sunk a trial pit in search of the water channel that lined the race course on the northeast side (for the location of the pit see Figure 1). We found no traces of the channel here, and the ancient floor level in the area is lower than that of the clay flooring in the Stadium. The trench revealed what appears to be a basement, containing a deposit, 0.75 m. deep, of ash and burnt animal bones. The walls, which are poorly constructed of small stones and earth and covered with plaster, have crumbled from intense heat. In an area measuring only 4 x 3.40 m. were found 43 cult lamps resembling those found in front of the Palaimonion, but of smaller size and poorer workmanship (Pl. 15, c, *a* and *b*). Mixed with these were fragments of 654 small one-handled beakers of equally poor material (Pl. 15, c, *d* and *e*). At a level *ca.* 0.25 m. above the floor of the room there was a hard-packed strosis, preserved in large patches over the whole room. The cult lamps were found both above and below this level, the beakers only above it. Below the strosis were found some small bowls (Pl. 15, c, *c*) and several large pan-shaped vessels of a type of local ware that seems to have been derived from the imported Arretine and "Samian" plates of the first century after Christ. In the northwest corner of the room, just above the floor level, were found the fragments of a very fine relief lamp of Type XXVII made by the Corinthian lamp-maker Secundus, whose activity falls in the second century after Christ (see below p. 34). The exact connection of this basement with the Palaimonion cannot be established with certainty until more of the area has been excavated. The nature of the fill, however, indicates that the room was used for sacrifices, and its relation to the cult of Palaimon can scarcely be doubted. Chronologically the fill of the basement follows that of the area directly in front of the Temple.

Our excavation has unquestionably revealed the location of the Palaimonion, and has cast new light on the ceremonies in honor of the hero at the time when Pausanias visited the sanctuary; but it has produced no evidence for the existence of the early cult place of the hero. Presumably this is to be sought farther west below the private gardens that now occupy this area.

THE RACHI

On the Rachi we completed the excavations begun in 1954.¹⁶ On the south side of the main, lower area we excavated the remains of several houses, so poorly preserved, however, that in no case could a complete house-plan be determined. Near the

¹⁶ Chrysoula Kardara, who has supervised most of the excavations on the Rachi, is now preparing a detailed publication of the whole area and of the objects found there.

northwest corner we discovered what appears to be a basement with walls and floor cut in solid rock (Pl. 7, c). It is a small structure, measuring only 2.63 x 2.50 m. in area. In the center was a column corresponding to a rough pier cut out of solid rock on the west side. An isolated drum of a column rising slightly above the floor may have been used as a seat or small table. On the line of the east wall was found a painted terracotta sima from the corner of a building, with a lion's head spout attached (Pl. 7, c, lower left). On the top is a depression which may have been made to receive a small akroterion. It is impossible to determine whether this piece of roof decoration had been used on the Rachi in its original position or brought from one of the buildings at the foot of the hill. Terracotta roof tiles were found in very large numbers all over the Rachi, and the painted sima may be from the roof on one of the buildings there, perhaps from a small temple in the upper area.¹⁷ The basement contained considerable quantities of pottery, mostly coarse ware, and more than sixty loomweights (Pl. 7, d). These were all found in the deep layer of ash. The heat of the fire that destroyed the building was so intense that the stones and rock-cut walls of the basement had crumbled and disintegrated. Among the vases is a trough-like vessel of peculiar shape, described below (p. 32, No. 43, Pl. 17, g). Adjoining the house on the east side is an area paved with cement. When complete it probably measured 1.65 x 1.65 m., but only in the northeast corner are the edges preserved. In the center is a circle 0.77 m. in diameter, made with small white and dark gray pebbles embedded in the cement. To the east of this pavement are two circular basins, measuring 0.69 and 0.80 m. in diameter respectively. The top of the basins was level with the cement flooring. This is doubtless one of several wine-presses found throughout the area.

On the south side of the ridge there is a large cistern partly cut in rock and partly built with stones where the rock was too crumbly. It measures *ca.* 3.24 m. in diameter. It is roughly bottle-shaped, but the walls are very irregular and covered with stucco, much of which has peeled off. The water was brought to the cistern from the houses in the higher area. At the top is preserved one side of a narrow mouth, above which there may have been a wellhead for drawing water. The cistern contained immense quantities of pottery, mostly fragments of coarse amphoras, but also sherds of painted vases together with a few figurines, roof tiles and household objects.

On the north side of the hill we completed the excavation of the house in which a rock-cut bathtub was found in 1954.¹⁸ In the area to the west of this tub we

¹⁷ See *Hesperia*, XXIV, 1955, pp. 125, 128.

¹⁸ *Ibid.*, p. 127, pl. 49, c. Numerous bathtubs with seats, much like those on the Rachi, have been found in Olympia, where the shape seems to go back to the fifth century B.C. Kunze and Schleif, *Olympiabericht* IV, 1940 and 1941, pp. 32 ff., figs. 21, 23, 24, pls. 15, 16. See also the bath found at Gortys in Arkadia, *B.C.H.*, LXXVI, 1952, pp. 245 ff., figs. 37, 38; and LXXVII, 1953, pp. 263 ff., figs. 60, 61, pl. XXXIX.

discovered several fragments of a terracotta bathtub, of much the same shape. A depression in the cement-covered floor of the room shows where the tub had been standing, only a few centimeters from the rock-cut bathtub (Pl. 8, a). East of the two baths there is a large wine-press, the most elaborate of those found on the hill (Pl. 8, b). On the east side was a large paved area approximately square, measuring 2.60 m. on the side. The cement pavement is here thin and poorly preserved. In the floor are three small rectangular cuttings, two of which have been filled up with stones, cut for the purpose.¹⁹ Adjoining this area on the west is a somewhat smaller floor, likewise paved with cement, but of much better quality and completely preserved. It measures 1.72 m. from east to west and *ca.* 2 m. from north to south. The partition separating the two areas is only 0.13 m. high and likewise covered with good cement. At the north edge are two circular basins partly cut in rock and partly built up with masonry, and covered with cement. Between the two runs a narrow channel which emptied into a rectangular basin farther north. Another basin south of the larger of the two cemented areas may have been connected with the same establishment. There can be little doubt that this, like some of the smaller establishments on the ridge, served as a wine-press. The grapes would have been stored in the large paved area on the east, the smaller area covered with hard cement on floor and walls would have been used for the tramping of the grapes, and from it the must would have flowed through the narrow channel into the rectangular basin on the north.²⁰ It was then presumably left to settle before being scooped up and poured into the circular basins. If the large rectangular container on the south was part of the establishment, it could have been used for washing the grapes before tramping or for storage of the must. Perhaps the bathtubs in the adjoining room were part of the wine-making establishment. Another implement probably used by the wine-makers is the large terracotta jar described on p. 32, No. 42.

The best preserved remains of houses are at a lower level on the north side of the hill, where an area, *ca.* 19 m. long and 5 m. wide, has been excavated. Here the rock has been dressed down, and two roughly built parallel walls follow the line of the hill side for a distance of 13 m. The northern wall was the rear wall of a series of rooms opening toward the north. Many fragments of roof tiles and some pieces of hand

¹⁹ The cuttings may have been used originally for some kind of mechanical press, such as have been found in Pompeii and Herculaneum. See note 20.

²⁰ Cf. the well preserved wine-press in the Villa of the Mysteries at Pompeii (Amadeo Maiuri, *La Villa dei Misteri*, pp. 96-102, and restorations by Luigi Jacono, figs. 40, 42). This is, however, a much larger and more elaborate establishment than the simple wine-presses on the Rachi. A well preserved example, less far removed in time (second century B.C.) has recently been excavated in the Crimea by a joint Soviet-Polish expedition. *I.L.N.*, Jan. 5, 1957, pp. 28, 29, figs. 4, 5. Here we find three areas, separated by low partitions, and a channel for leading off the must. Cf. also the sketches and description of the Catonian olive or grape press, Robinson and Graham, *Excavations at Olynthus*, VIII, pp. 339 ff., fig. 36.

mills were found within these rooms, but there is no real clue to their use. Their size and location at the foot of the settlement, facing the sanctuary, would make them suitable as shops. The second of the two parallel walls, *ca.* 1 m. farther south, served as retaining wall for the upper area. Between the two walls runs an open drainage channel in which rainwater from the hill was collected. The channel continued, partly cut in rock, toward the west and there emptied into a large well with a diameter of *ca.* 0.93 m. The shaft, cut in solid rock to a depth of over 40 m., has the usual footholds on the sides. It contained quantities of pottery, including some fine decorated vases of West Slope ware (see below pp. 31, 32, Nos. 37, 40, 41). At a depth of 8 m. a tunnel leads northward from the well-shaft, for a distance of 13 m., to the edge of the hill. At the mouth of the tunnel we found no signs of a building or cistern with which the tunnel could have been connected. The pottery from the tunnel is similar to that from the well-shaft. As we approached the 40 meter depth of the well the purpose of the tunnel became apparent. Until its mouth had been opened the workmen at the bottom of the well suffered headaches from lack of oxygen. As soon as the tunnel had been cleared, an air current was set up which brought sufficient ventilation down to the bottom of the well. The tunnel may have served no other purpose than to provide fresh air for the workmen cutting the shaft.

It is obvious that water was always scarce on the Rachi; this we may judge from the number of cisterns constructed among the houses. But it seems a little surprising that the occupants should have dug a well so near the top of the hill, and even more remarkable that the attempt proved successful. The water is still so plentiful that after reaching a depth of *ca.* 40 m. we were unable even by bailing for many hours to lower the water level sufficiently to complete the excavation. A metal rod thrust down into the fill of the shaft below this level indicated that the total depth is more than 42 m.

All along the ridge there are rock-cut stairways at various points both on the north and south sides. Some of these may have been used chiefly by the stonecutters who worked the quarries both before and after the ridge was settled. The principal ascent from below seems to have been on the north side, a little to the west of the deep well, where a broad stairway and ramp lead up to the area occupied by the houses. Along the west side of it runs a rock-cut water channel through which some of the rain water from the hill was led down the slope, where it may have been collected for use. The lower area at this point has become so altered by quarrying as to make further excavation unprofitable.

THE JUSTINIAN FORTRESS

In the campaign of 1954 one tower and a stretch of the west wall of the Justinian Fortress were cleared. Among the debris from the demolished wall were recognized many fragments from the Temple of Poseidon, recut, however, to such an extent as

to make them virtually useless for the restoration of the Temple. The wall itself, and especially the tower, are constructed in a very imposing style of masonry, which could not be seen and appreciated before the excavations. In the 1956 campaign we resumed work on the Fortress, this time at the South Gate, which was the principal entrance from the Peloponnesian side (Pl. 8, c).

The gate had a clear opening of 2.84 m., but is now blocked up to a height of 2 m. above the Justinian ground level. On either side of the entrance, at the height of 2 m., there is a circular medallion, *ca.* 0.41 m. in diameter with a large cross in relief, on blocks built into the Fortress. Since these crosses can not be later than the time of the Fortress itself, they date the construction in the Christian era, and the structural and epigraphical evidence for the Justinian date is decisive.²¹ A circle with a similar cross was found on a block with a curved surface, but here the medallion, which had been cut after the block was finished, does not stand out in relief. Directly west of the gate we dug a broad trench down to stereo, here *ca.* 0.80 m. below the Justinian level. Two walls of Roman buildings were laid bare in this area (Pl. 8, c, center and lower right), and beneath their foundation are remains of a paved roadway. Built into one of the walls were found two pieces of a statue of Hermes (Pl. 9, g).

The gate is flanked by towers, both octagonal on the outside and built on rectangular podia of massive masonry. The interior of the left tower—as one enters the fortress—is octagonal and has a diameter of *ca.* 4.25 m. The lower two courses are built with large blocks, some of which are cut with an obtuse angle to fit in the corners, and a few pieces of brick and tiles are inserted in the interstices. The upper section of the walls is built with smaller blocks and with more frequent use of tiles and bricks, all laid in lime mortar. The interior was reached by a stairway from above, consisting of large blocks projecting from the face of the wall. Three of the steps are preserved *in situ*, and the broken edges of three more can be seen in the wall. Between the outer and inner shells of the wall there is a rubble fill of small stones and rather loose, crumbly mortar.

The distance from the podium of the left tower to the left jamb of the gate is 1.68 m. The corresponding distance on the right side is 1.70 m. Here a low wall, cut in a single block, extends from the face of the fortress wall toward the south for a distance of 1.32 m. The space between this wall and the right tower is paved with mortar and was used as a fireplace, probably by the soldiers guarding the gate. In the corner between the tower and the projecting wall, there was a deep layer of ash, in which was found a coin of John I Zimiskis (A.D. 969-976).

The right tower has a circular interior, with a diameter of 3.09 m. It is made

²¹ Prior to the investigations by Jenkins and Megaw, *B.S.A.*, XXXII, 1931-32, pp. 68 ff., various dates had been proposed, ranging from the fifth century B.C. to Byzantine times. Megaw's careful study of the fortress and the Isthmian wall showed clearly that these were constructed as part of Justinian's program of defense in the Peloponnesos.

with carefully cut blocks and tight joints, pointed up with lime mortar. The walls of the tower are preserved to a maximum height of 3.50 m. On the side facing the gate, at the height of 1 m. above the floor of the tower, there is a doorway, only 0.51 m. wide (Pl. 8, c, right of center). It is not a part of the original construction, but was cut through the wall at a later period. There is no evidence for an entrance of earlier date; the interior was probably then reached from above by a wooden ladder. The walls of this tower are somewhat thicker than those of the left tower, but otherwise constructed in similar manner. The interiors of both towers were filled with stones and building debris, mostly with blocks from the towers themselves. Some of the stones are shaped like the arc of a circle decreasing in diameter toward the top. Apparently both towers were ceiled with corbel domes.

The most imposing part of the wall exposed in our excavations is to the east of the right tower, where the wall is still standing to a height of 3.66 m. (Pl. 8, d, right). The blocks in this section are very large, one having a length of over 2 m., and some of the wall courses are as much as 0.73 m. high. Most of the blocks are re-used. Many column drums, seat blocks from the later Stadium, etc. can be recognized among the immense masses of stones removed from the debris along the wall. Although few objects of intrinsic value have been found in the excavations of the fortress, it seems worth while to expose sections of this imposing masonry which constitutes the best preserved example of wall building in Greece from the reign of Justinian.

INSCRIPTIONS

A considerable number of inscribed fragments of stone and marble were found in different parts of the excavations. Included among these are some pieces of two Hellenistic documents, so small, however, that little of the contents can be restored. They were found in widely separated areas, within the Precinct of Poseidon, and there is thus some likelihood that more fragments will be recovered in subsequent campaigns. These must await further study. A few of the inscribed stones, which are of special interest in connection with the sanctuaries, are included here.

1. $\text{I}\Sigma$ 272. Pl. 9, a. Statue base of white marble, found in the trench of the removed rear wall of the south stoa in the Palaimonion area.

H. 0.34 m., W. 0.69 m., Th. 0.578 m.; letters, on front, *ca.* 0.067 m., on back, 0.05 m.

$\Sigma\epsilon\acute{\iota}\sigma\upsilon\phi\omicron\varsigma$ (same inscription on the back).

In the top of the base is a shallow sinkage for the plinth of a statue.

2. $\text{I}\Sigma$ 293. Pl. 9, b. Statue base of white marble found in the same area, a little farther toward the west.

H. 0.34 m., W. 0.83 m., Th. 0.58 m.; letters, 0.06 m.

$\text{Β}\lambda\alpha\sigma\tau\acute{o}\varsigma\ \mu\acute{\alpha}\nu\tau\iota\varsigma$.

In the top is a sinkage for a statue.

These two bases, found very close together, are similar in shape and material and were doubtless set up at the same time. Both were lying in the trench where the rear wall of the south stoa had been removed. This wall presumably enclosed the precinct of Palaimon on the north side, and it is likely that the statues supported by the two bases had been erected within the Palaimonion area. We may thus assume that the prophet Blastos was connected with the cult of Palaimon. A third base (No. 3), now in the courtyard of the Old Museum at Ancient Corinth, may have been set up at the same time, though probably not in the same place.

3. Corinth epigraphical inventory, No. 1626. Pl. 9, d. Statue base, like the preceding.

H. 0.325 m., W. 0.81 m., Th. 0.625 m.; letters, line 1, 0.065 m., line 2, 0.045 m.

Ἰουβεντιανὸς
ἱερεὺς

This base was brought to Ancient Corinth from New Corinth, together with other inscriptions from the Isthmia. There can be little doubt that it had originally stood in the Isthmian Sanctuary.²² The priest Iuventianus is doubtless the well known benefactor, whose donations for the Isthmian sanctuary are recorded on a stele now in Museo Lapidario in Verona.²³ The statues may have been part of the embellishments in the Palaimonion (τὸ Παλαιμόνιον σὺν τοῖς προσκοσμήμασιν) undertaken at Iuventianus' expense.

4. IΣ 295. Pl. 9, c. White marble fragment in the form of a handle attachment of a lamp, found in the northeast corner of the temenos of Poseidon.

H. 0.21 m., W. 0.175 m., Th. 0.07 m.; letters, line 1, 0.063 m., line 2, 0.037 m., line 3, 0.028 m.

Γ. Ἰούλιος
Εὐτυχῆς
νεοκό
[ρος]

The third line, written across the small part of the handle attachment, may be the beginning of an unusual name of the father of Eutyches. It seems more likely, however, that the first *omikron* stands for an *omega* and that the word to be restored is νεωκόρος,²⁴ or some participial form of the verb νεωκορέω. The peculiar shape of the monument, in the form of a lamp, perhaps part of a support of a statue, would then be explained as alluding to his office of temple caretaker. Similarly the book-roll with portraits of literary figures allude to the profession of the man honored by the statue. For the occurrence of vases and armor on statuary supports see Fritz Muthmann, *Statuenstützen*, Heidelberg, 1951, pp. 58 ff., 104 ff.

5. IΣ 296. Pl. 9, e. Poros altar found among

²² *Hesperia*, VIII, 1939, p. 189; where the second *iota* in the name was omitted by mistake.

²³ *I.G.*, IV, 203. For other inscriptions in honor of Iuventianus see Broneer, *Hesperia*, VIII, 1939, pp. 188-189, and Allen B. West, *Corinth*, VIII, ii, pp. 54-55. These inscriptions, and the career of Iuventianus will be further discussed in the forthcoming volume, *Corinth*, VIII, iii, by John H. Kent. For the date of Iuventianus Allen B. West (*op. cit.*, pp. 19, 55) favored a time shortly after A.D. 77. The epigraphical evidence for the activities of Iuventianus points to a considerably later date. In *Hesperia*, VIII, 1939, p. 190, I suggested the Antonine period. Professor Kent (by letter) is inclined to date all the Iuventianus inscriptions toward the end of Marcus Aurelius' reign. The date is of great importance for the history of the Isthmian sanctuary.

²⁴ The noun spelled with *omikron* occurs in an inscription from Ostia; R. Cagnat, *Inscr. Gr. ad Res Rom. Pert.*, vol. I, No. 391; and a verbal form with similar spelling is found in an inscription from Pergamon, containing also the noun νεωκόρων correctly spelled; R. Cagnat, *op. cit.*, vol. IV, No. 1689.

the scattered blocks from the Isthmian Wall, a little to the west of the point where the west arm of the Fortress of Justinian abutted against the Isthmian wall.

H. 1.15 m., W. (exclusive of mouldings) 0.495 m., Th. (at top) 0.53 m.; letters, 0.07-0.10 m.

HERCVL i
SACR(um)
EX VISV

At the top and bottom were mouldings on all four sides. The inscribed face is much weathered and the block is cracked to such an extent that it would break into pieces if it were moved. It had doubtless been built into the Isthmian wall.

There is no other evidence for a cult of Herakles at Isthmia; and the altar, erected in response to a vision in a dream, need not imply the existence of a sanctuary to the hero.

SCULPTURE

Pieces of marble sculpture were found in all areas, but most of them are too small to be included in an interim report. From the north temenos dump came the left hand from an early archaic kouros and a toe of a life-size bronze statue. The debris from the archaic Temple also contained most of the fragments of the *perirrhanterion* described below.

1. IS 3, 161, 165, 220. Pls. 10, a, b; 11, a. *Perirrhanterion*.

Total restored height, including poros base 1.26 m.; height of kore from top of head (exclusive of polos) to bottom of drapery *ca.* 0.50 m.; diameter of basin, inside, 1.17 m., outside 1.235 m.; diameter of poros base 1.23 m.

The material is a blue-gray marble, with streaks of darker color, but with no marked tendency to split along the veins. It is so similar to the marble of the architectural members from the Throne of Apollo at Amyklai that there can be little doubt that it was imported to the Isthmia from Laconia. A circular block of poros, measuring 0.25 m. in height and 1.23 m. in diameter, and still standing in its original position on the axis of the Temple of

Poseidon,²⁵ doubtless served as base for the group. Its diameter is almost exactly the same as that of the marble basin.

The sculptural support of the basin was in the form of four caryatids, each standing on a recumbent lion and holding its tail in her right hand and a leash in her left. To the heads of the korai is attached a marble ring from which rams' heads project, alternating with the human figures. A marble plinth must be restored as support for the whole group. The plinth, the lion figures, the four korai, the rams' heads, and the ring at the top were all carved out of a single block of marble. The basin, which was carved separately, had two cleats at the bottom which fitted into slots at the inner edge of the marble ring.

There is enough preserved of each element in the stand to make possible the reconstruction shown in Plate 11, a. The extant pieces are: one nearly complete kore and the upper half of another; two rams' heads and fragments of a third; more than

²⁵ *Hesperia*, XXIV, 1955, p. 129, pl. 50, c. The marble *perirrhanterion* at Olympia, which is somewhat later in date but otherwise very similar to the Isthmia *perirrhanterion*, is also made of Lakonian marble. See Emil Kunze, *Olympiabericht* V, 1956, p. 30. For other references see *Hesperia*, XXIV, 1955, p. 129, note 26.

half of the marble ring at the top; one almost complete lion's head and a small piece of a second head; and considerably more than half of the marble basin, including nearly all the pieces of three of the four handles. Many of the fragments show the action of heat from the fire that destroyed the Temple. The missing portions have been restored in plaster with the use of moulds taken from the preserved parts. Since no fragments from the lions' bodies have been found, these have not been included in the plaster restoration. Although most of the fragments came from a restricted area in the north temenos dump, some were found within the Temple foundation,²⁶ and one half of a kore was discovered between the Temple and the Long Altar. As the excavation progresses, it is not unlikely that other fragments will be found which can be inserted later.

The better preserved of the lions' heads shows that the neck curved toward the right so that the lion would look almost straight forward as seen from the front. The head, with its short ears, large bulging eyes, and closed mouth, has a decidedly orientalizing appearance. Below the eyes there is a raised ridge terminating on the sides against the ruff, and a similar ridge, which has mostly flaked off, extending vertically between the eyes to the top of the head. These ridges are part of the anatomy.²⁷ A somewhat heavier ridge around the neck indicated the collar, and from it a leash extended along the back of the animals and up the side of the korai, who held the curved end of the leash in their left hands. They stand stiffly erect with their arms attached to their sides. They wear single piece garments held in at the waist with a belt without clasp or buckle. The hem of the garment appears below the neck, but the ends of the sleeves are not indicated. The hair comes down low in straight lines over the foreheads and hangs down in heavy masses on the backs and shoulders. The front locks curve forward like consoles framing the face and neck. The texture of the hair is not shown but may have been rendered by color. The ears are flat lugs pressed against the edge of the hair. The nose is prominent, the eyes large with deep grooves between lids and eyeballs. The mouth is almost straight and the lips thin. As seen in profile, the contours of the cheeks and chin describe an S-curve, and the lower part of the face recedes strongly from the upper. On the head is a low polos which merges into the marble ring at the top.

The rams' heads show slight modeling. As in the korai, many of the details are

²⁶ *Hesperia*, XXII, 1953, p. 191, pl. 59, d; XXIV, 1955, p. 129 f., pl. 50, d.

²⁷ Cf. the heads on some Late Protocorinthian vases, which Payne has dated in the decade 650-640 B.C. See, e. g., *Necrocorinthia*, pl. 9, 1, an aryballos in the British Museum from Kameiros. Here a double incised line, corresponding to the raised ridge on our lion figures, sets off the mouth and nose from the hairy part of the head. All the lions on this vase, and on a few other vases of the Middle and Late Protocorinthian period, have their mouths closed. Similarly the Kerkyra lion and the panther from the Gorgon pediment; F. Matz, *Gesch. der Gr. Kunst.*, I, pls. 132, 133, 137. Our best parallel in plastic art—also with its mouth closed—is the fine bronze lion from Perachora, which Payne dated to the middle of the seventh century B.C., *Perachora*, pp. 130-132, pls. 39, 40.

omitted, but the principal features—horns, ears and eyes—are boldly rendered. In the best preserved of the heads neither the mouth nor the nostrils are carved, but one of the heads shows slight depressions for the nostrils.

The large basin, carried by this sculptural group, has a finely moulded rim and four handles of two kinds, arranged so that each handle comes directly above the head of one of the korai. Two handles of the wishbone type extend above the rim and swing down the side of the basin, then curve up and terminate in double spirals a little below the rim. The smaller handles are mere lugs attached to the outer edge of the rim. Both types of handle are copied from bronze vessels. The walls of the basin vary in thickness from four centimeters near the center to only a little over one centimeter in some places close to the rim.

A stylistic study of the basin and its sculptural support will be reserved for a separate article. Anticipating the result of such a study we can state with confidence that the date would fall close to the middle of the seventh century B.C., according to the dating now accepted for early archaic art. The closest parallels are found in the Middle Dedalic period, which extends over a quarter of a century from about 655 to 630 B.C.²⁸ But our korai form a category all their own; they do not fit closely into any of the groups or schools of sculpture, which have been established for the seventh century. The reason for this is fairly obvious, once the observation has been made. The stylistic study of "Dedalic" art has been based chiefly on terracotta figures, which doubtless reflect the trends of their periods, but do not belong to a type of art that established these trends. For the origin of this art we must look to the technique of wood carving. If we bear this in mind, the peculiar treatment of the hair, the bold independent curves of the different planes of the girls' faces, the stubby, almost cubistic, form of the lions' heads find their explanation. These are features which are not likely to have originated in plastic art, but are the natural outcome of a tradition of wood carving. It is equally obvious that the marble basin with its two kinds of handle harks back to metal prototypes.

It was pointed out above that the marble is of the Laconian variety. This need not imply that the *perirrhanterion* was carved in Sparta and shipped to the Isthmia. It would have been far easier to transport the uncarved marble blocks, together with the sculptor, than to take this delicate group on the journey by land and sea from Sparta. Corinth had no marble of its own, so that the Laconian origin of the material in no way implies that the finished product must be ascribed to a Laconian sculptor or to the Laconian school of art. Some features, especially the large, prominent nose, the figures have in common with contemporary heads from Sparta. But the straight mouth, thin lips and the ringed eyes are typical of Corinthian heads from

²⁸ See R. J. H. Jenkins, *Dedolica*, pp. 33 ff., pls. IV-VI; and cf. two terracotta heads from Samos, F. Matz, *op. cit.*, pls. 76, 95, which show a somewhat similar arrangement of the hair.

the same period. Beyond such tangible details, which may be indicative of a specific school of art, the korai of our *perirrhanterion* possess a peculiar quality of style not readily defined but quite distinct. This quality, I believe, is to be explained, not in terms of stylistic differences in provincial schools of art, but on the basis of the material in which this type of sculpture developed.²⁹ It is pointless to remark that the wooden prototypes are lost, for there is little sculpture in existence in any material—except terracotta—that would be useful for comparison with the figures of the *perirrhanterion*. The two extant caryatids are the first seventh century statues in marble discovered in the Corinthia; they will provide a starting point and a firm basis for any future treatise on the Peloponnesian art of the seventh century, B.C.

2. IS 203. Pl. 9, g. Left foot and leg of Hermes, from trench in front of South Gate of Justinian Fortress. H. 0.70 m. Part of the right leg of the statue was found in the same place.

The material is white marble. The leg is attached to a tree trunk support, and small wings at the ankles identify the figure as a Hermes. The two pieces had been built into a Late Roman wall in front of the entrance to the Fortress. In 1954 another marble foot with wings at the ankles and wearing sandals, doubtless from a statue of Hermes, was brought by villagers to the excavation. There may well

have been a temple of Hermes at the Isthmia, but we have no literary or epigraphical record of its existence.

3. IS 205, A and B. Pl. 9, f. Head and right hand of statuette of Pan, from the Palaimonion area.

A. H. 0.095 m., W. 0.075 m.

B. H. 0.075 m., W. 0.05 m.

White marble. Very fine, delicate carving. There can be little doubt that the two pieces came from the same statue, and the syrinx identifies it as a figure of Pan.

POTTERY AND LAMPS

The season's work at Isthmia yielded a considerable quantity of pottery of many periods, ranging from the early Bronze Age to Byzantine times. Some of the more significant pieces are described below.³⁰

A few Early Helladic sherds came from the deep fill along the two parallel retaining walls of the stadium. There was a thin sprinkling of Mycenaean and Geometric pottery in all the sectors within and close to the precinct, but nowhere in significant concentration. Protocorinthian sherds were more common but still comparatively rare. These few early pieces indicate that the area had been inhabited since the third millennium B.C., but they point to no extensive occupation in the immediate

²⁹ Wood sculpturing seems to have been a specialty of Corinth and Sikyon, if we may judge from Pausanias' account of the two cities. He mentions five wooden statues in the Corinthia, one of which was believed to have been the work of Daedalos, and five in Sikyon.

³⁰ In my study of the pottery I am indebted to D. A. Amyx and Franklin P. Johnson for helpful suggestions. Professor Johnson is now engaged in a general study of the pottery from Isthmia, not including the vases from the Rachi, which are being studied by Miss Kardara.

vicinity of the classical sanctuary. The earliest pottery fragments in significant quantities (late Protocorinthian, Early Corinthian) coincide roughly with the construction of the archaic Temple in the seventh century B.C.³¹ Most of the pottery of that period came from two dumps containing debris from the burned Temple, one at the east end of the temenos, the other—more extensive—north of the Temple. The latter, which is here referred to as the north temenos dump, also contained pottery from the sixth century B.C., including fragments of two Panathenaic amphoras.

The excavation on the Rachi produced the largest number of vases, dated in the fourth and third centuries B.C. A small amount of pottery of late Hellenistic times came from a manhole to a cistern in the southwest corner of the temenos of Poseidon. Roman pottery and lamps from the first century after Christ were found in the area east of the Palaimonion. The second century deposit of lamps and vases from the sacrificial pit farther east is impressive in quantity (see above p. 17), rather than in quality. Almost no pottery later than Roman times came from the main areas of excavation near the Temple of Poseidon. Only at the South Gate of the Justinian Fortress did any significant number of mediaeval pottery fragments come to light.

The Early Helladic vases, Nos. 1-8, are from one or more tombs turned over and destroyed by bulldozers on the side of the new road west of Kalamaki. In the course of the road construction a few complete vases were collected by the engineers, and these were later brought to the Museum at Ancient Corinth. When the discovery of the pottery was brought to our attention by the engineers, Mr. Pallas and I went to the site and, with the help of some workmen, succeeded in collecting a considerable number of fragments, and at a later visit we made more extensive search for sherds. Out of this lot came 21 inventoried pieces, including 17 whole or nearly whole vases, and many smaller fragments. The only patterned ware is a small piece of a sauceboat decorated with a row of triangles along the inside of the rim.³² The pottery is of considerable interest, as will be seen from the following sample pieces.

1. IP 674. Pl. 12, a, a. From side of new road west of Kalamaki.

E. H. bowl on high foot. H. 0.112 m., diam. 0.165 m., H. of base, 0.048 m. Intact.

Turned-in rim and conical base, flaring out at the bottom. Rather coarse, gritty clay. The surface is covered with a smooth wash of the same color as the clay, varying from chestnut

brown to almost black. It is well burnished on the outside, less so on the inside.

The shape of this and of No. 2, which appears to be unknown in the Peloponnesos, has been found at Askitarío, near Rafína in east Attica. See *B.C.H.*, LXXIX, 1955, pp. 224-226, fig. 7. The shape appears to be Cycladic. Cf. Ch. Tsountas, *Ἐφ. Ἀρχ.* 1898, col. 174, pl. 9, 15; and 1899, col. 86, pl. 9, 16.

³¹ Any inference, drawn from the pottery, regarding the earliest date for the existence of the sanctuary would, of course, be tentative at this stage of the work. Further exploration of the area may change the picture.

³² Fragments of a similar sauceboat were found by Demetrios P. Theochares at Rafína, on the east coast of Attica. *Πρακτικά*, 1952 for the year 1951, pp. 82-84, figs. 5, 9.

2. IP 676. Pl. 12, a, b. Same provenance.
E. H. bowl. H. 0.103 m., diam. 0.127 m., H. of base, 0.042 m. Intact.

Same general shape as the preceding but deeper in proportion to its width. Similar fabric, well burnished.

3. IP 667. Pl. 12, a, c. Same provenance.

E. H. sauceboat. H. to rim of bowl, 0.092 m.; total H. to tip of spout, *ca.* 0.148 m.; W. 0.128 m., total L. *ca.* 0.21 m. Handle and end of spout restored.

Horizontal handle and low base. Light buff clay, glaze varying from reddish brown to nearly black.

4. IP 668. Pl. 12, a, d. Same provenance.

E. H. one-handled pitcher. H. 0.095 m., diam. 0.079 m. Intact.

No base, mouth slightly turned out to form spout. Buff clay; dull glaze varying in color from red to dark brown.

5. IP 678. Pl. 12, b, a. Same provenance.

E. H. jar. H. 0.13 m., diam. 0.15 m. Partly restored.

Two horizontal handles, slightly upturned rim as if the vase were intended to have a lid. Conical body. No foot, but on the bottom is a flat surface, only 0.018 m. in diameter, which has been roughened as if a foot had been intended. That this was the case is further shown by the fact that the vase cannot stand by itself. The outer surface shows traces of paring. Apparently the vase was fired in a semifinished state. Buff gritty clay, unglazed.

6. IP 663. Pl. 12, b, b. Same provenance.

E. H. bowl. H. 0.068 m., diam. 0.128 m. Restored.

In-curving rim, low base. Light buff clay; dull, grayish brown wash or glaze.

7. IP 675, Pl. 12, b, c. Same provenance.

Small, E. H. cup on high base. H. 0.07 m., diam. 0.090 m. Much restored.

No handle preserved. Buff clay, gray metallic glaze.

This shape, too, appears among the E. H. pottery from the Cyclades, published by Ch. Tsountas, *Ἐφ. Ἀρχ.* 1899, pl. 9: 10, 13.

8. IP 665. Pl. 12, b, d. Same provenance.

Small E. H. bowl without base. H. 0.03 m., diam. 0.095 m.

Reddish brown clay, brown glaze, showing brush strokes.

9-13. IP 1131, 1170, 1056, 1162, 1168. Pl. 12, c, a-e. Mycenaean sherds, from the archaic deposit in the north temenos dump.

14. IP 1082. Pl. 12, c, f. Fragment of Sub-Mycenaean bowl from area east of Poseidon Temple. Reserved band on shoulder with wavy line pattern. Buff clay, reddish brown glaze. Cf. *Corinth*, VII, i, Nos. 1, 4, pl. 1; *Hesperia*, XX, 1951, pl. 89, b.

15-17. IP 1069, 1044, 1066. Pl. 12, c, g-i. Sherds of Geometric vases from areas east and southeast of Poseidon Temple. No. 16 (Pl. 12, c, h, 1-3) is Laconian Geometric, of hard brown clay and metallic glaze. Sherds of identical fabric and with similar decoration are found in considerable numbers on the site of the Amyklaian Throne of Apollo.

18. IP 983. Pl. 12, c, j.

Small Geometric plate with flat bottom. H. 0.016 m., diam. 0.095 m.

The decoration consists of concentric bands, and on the rim is a row of dots. In the center are five holes made after firing. Light red clay, good brown glaze.

19. IP 1018. Pl. 13, a, a. Sub-Geometric cup from east temenos dump.

H. 0.052 m., diam. 0.091 m. Partly restored.

Flat base and slightly out-turned rim. Buff clay, dull brown glaze, covering most of the vase except the base. Horizontal stripes of glaze on the handle.

The shape seems to have persisted over a

long period from Protogeometric to the end of the Geometric period. See Saul S. Weinberg, *Corinth*, VII, i, No. 21; Rodney S. Young, *Hesperia*, Suppl. II, Nos. C 51, 52; Broneer, *Hesperia*, VIII, 1939, pp. 401, 402, fig. 84, a.

20. IP 1020. Pl. 13, a, b. Same provenance.

Same shape and decoration. H. 0.048 m., diam. 0.098 m. Partly restored.

On the base is an X applied in brown glaze.

21-26. IP 871, 1114, 842, 1023, 845, 1126. Pl. 13, b, a-f. Fragments of six Protocorinthian conical oinochoai, all but two from the north temenos dump.

They have the usual bands on the body and a variety of patterns on neck and shoulder. All are made of the fine yellow or reddish clay, typical of Protocorinthian pottery. The glaze is of excellent quality.

27-30. IP 1037, 1140, 775, 868. Pl. 13, b, g-j. From north temenos dump.

Fragments of Early Corinthian ware, decorated with animal figures, sphinxes and filling patterns.

Fine buff clay, brown and purple glaze of good quality.

31. IP 776. Pl. 13, b, k.

Early Corinthian aryballos. Diam. 0.05 m.

Handle and top missing. On the shoulder a tongue pattern, on the body a long-eared animal, crudely drawn, of undeterminable species. Buff clay of excellent quality, dark brown glaze.

In the deformity of the animal body and in the haphazard use of incised lines the decoration on the aryballos resembles that on a terracotta mirror from the Corinthian Kerameikos. See Agnes Newhall Stillwell, *Corinth*, XV, ii, p. 212, No. 2, pl. 46, XXXIV, 2. The drawing is so similar that the two might be the work of the same "artist." The mirror has been dated in the first quarter of the sixth century.

32. IP 994. Pl. 13, a, c. From archaic dump east of Poseidon Temple.

Early Corinthian amphoriskos. H. 0.062 m., diam. 0.038 m. Intact except for part of base.

On neck and shoulders are tongue patterns. In the main zone are vertical rows of dots, grouped in squares; above and below are horizontal bands. Buff clay, dark brown glaze of good quality.

For the decoration cf. Saul S. Weinberg, *Corinth*, VII, i, pl. 22, No. 144. The amphoriskos seems to have developed after the Protocorinthian period. Cf. Payne, *Necrocorinthia*, p. 314, Nos. 1073-1089; and *Corinth*, VII, i, p. 78, Nos. 335, 336.

33. IP 852. Pl. 13, a, d. From north temenos dump.

Corinthian "football" aryballos. H. 0.06 m., diam. 0.056 m. Intact.

Double incised lines divide the rim into sections, and similar lines extend from the neck and meet in a central point on the base. Pale buff clay. The glaze has entirely disappeared.

Cf. *Necrocorinthia*, No. 638, fig. 126.

34. IP 1083. Pl. 13, a, e. Same provenance.

Late Corinthian aryballos. H. 0.066 m., diam. 0.067 m. Part of rim is missing.

On the shoulder is a row of elongated dots, apparently a degenerate tongue pattern. On the front a quadrifoil lotus design with a net pattern on the central pair of leaves. Underneath are three multiple loops. Buff clay, dull, brown glaze, which has largely peeled off.

Cf. *Necrocorinthia*, p. 320, No. 1263; and *Hesperia*, VIII, 1939, pp. 194-195, No. 3, fig. 4, A.

35. IP 1172. Pls. 14, a and 15, a. From north temenos dump.

Panathenaic amphora. H. ca. 0.71 m., diam. ca. 0.405 m. Much restored, and large parts missing.

On the neck is a double palmette and lotus pattern; on the shoulder above the front panel, a tongue pattern; above the base, a ray pattern.

Panel decorations:

A. Pl. 14, a. Figure of Athena striding to left, holding circular shield in left, poised spear in right hand. Her face, hands and feet in white. Details—necklace, finger nails, toes—are rendered with fine lines incised through the white so that they appear in black. Incised wavy lines, rosettes with crosses in center, and small circles in purple are used to show texture and design of her garment. On the shield was a figure of Pegasos in white. The crest of Athena's helmet extended up into the tongue pattern. Doric columns with figures of cocks flank the goddess. The painted inscription τὸν [Ἀθῆ]νεον ἄθλον reads from top to bottom, with bottom of letters toward column.

Purple was used on alternate tongues at the top of the panel, for comb and wattles and wing feathers of the birds, for the fillet in Athena's hair, and for the rim of her shield. Below the panel is incised in Corinthian letters, 0.02-0.065 m. high, the inscription Δάμων ἀνέθηκε.

B. Pl. 15, a. Four runners, to right. All are bearded, and the positions of their arms and legs are almost identical. On the extreme right is a large basket, the texture of which is indicated by wavy lines.³³

The only use of purple is for the beards of the athletes and for borders above and below the panel. On the black zone below the panel are two letters, ⓐ, in light brown color within a small oval area, where the surface is flattened and the black color has turned slightly brown. Apparently the base had been in contact in the furnace with another Panathenaic amphora, and two letters from its inscription came off on our vase during the firing.

³³ The basket would probably have been used to carry sand to the race course or wrestling ground. See vase in Brussels, reproduced in E. Norman Gardiner, *Athletics of the Ancient World*, fig. 56, opp. p. 87; and note 11 above.

³⁴ The drawing resembles that on Br. Mus. B 271. See *J.H.S.*, XXVII, 1907, pl. I; E. Norman Gardner, *Athletics of the Ancient World*, fig. 131, *Greek Athletic Sports and Festivals*, p. 416, fig. 141; Sir John Beazley, *Attic Black-figure Vase-painters*, p. 375, No. 212; *C.V.A.*, Br. Mus. Fasc. 4, pl. 67, 1.

³⁵ The process apparently entailed the application of miltos on the clay over the areas to be incised, before the black glaze had been applied. Later the glaze was scratched away with a stylus, so that the design stood out in red. For the process see Broneer, *Corinth*, IV, ii, p. 46; and Homer A. Thompson, *Hesperia*, III, 1934, pp. 439, 454.

Date: End of sixth century. Leagros Group.³⁴

This is the better preserved of two Panathenaic amphoras found in the temple debris. The other amphora (IP 1173) had a chariot scene on the reverse. The two vases, which were found shattered into small fragments, were much discolored from the fire in the Temple. They have not been completely restored. They are so similar in glaze and fabric that it is difficult to distinguish the smaller fragments of the two vases.

36. IP 695. Pl. 13, c. From large cistern on the Rachi.

Kantharos. H. ca. 0.17 m., diam. 0.163 m. Much restored.

On the neck, at the height of the handles, is a floral design in opaque, light brown paint. The lower part is fluted. Red clay, good black glaze. Attic ware.

For shape and type of ware cf. Homer A. Thompson, *Hesperia*, III, 1934, p. 338, No. B 20; and p. 342, No. B 36; both dated at the end of the fourth century B.C. or early part of the third. This is the time during which the settlement on the Rachi flourished.

37. IP 436. Pl. 13, d, a. From the Rachi well.

Hemispherical bowl. H. 0.106 m., diam. 0.157 m. Partly restored.

Three feet, shaped like sea shells. Below the rim are two grooves tinted red;³⁵ on body a rather carelessly executed floral design, incised. Red clay, good black glaze. Attic ware.

The Attic fabric of these vases is readily distinguished from the common local imitations, *e. g.* No. 38, made with buff clay and decorated with a dull glaze of inferior quality.

38. IP 453. Pl. 13, d, *b.* From Rachi.

Deep bowl on three knob-like feet. H. 0.085 m., diam. 0.133 m. Much restored.

Below the rim are two incised lines, tinted red, and a carelessly drawn floral pattern, also incised. Buff clay, dark brown glaze.

39. IP 539. Pl. 14, c. From Rachi.

Casserole. H. 0.059 m., diam. 0.19 m. Partly restored.

Flange for lid, two loop handles. Red fabric, unglazed; blackened on the bottom.

For the shape cf. Homer A. Thompson, *op. cit.*, p. 467, fig. 121.

40. IP 538. Pl. 14, c. From the Rachi well.

Casserole lid with knob in center. Diam. 0.169 m. Partly restored.

It fits No. 39, as shown in photograph, but the two were not found together. Brick-red clay, unglazed.

41. IP 780. Pl. 14, d. From the Rachi well.

Squat pitcher. H. 0.18 m., diam. 0.19 m. Restored.

Large, flaring mouth and ribbed handle. The upper part of the body is decorated with rows of "blisters," i. e., finger impression made from the inside while the clay was wet. Reddish buff clay, mottled bluish gray and light brown wash with dull surface.

This type of "blister ware" was common in Corinth from the late fifth century B.C. to Hellenistic times, and is doubtless of local make. Cf. M. Z. Pease, *Hesperia*, VI, 1937, pp. 288 ff., Nos. 138-143.

42. IP 586. Pl. 14, b. From the Rachi.

Large open jar. H. 0.30 m.; diam. at top, 0.38 m., at base 0.23 m. Somewhat restored.

Heavy fabric, two sturdy handles and strong, molded rim. The bottom is flat. The walls on the inside have been roughened by drawing a comb over the wet clay from the bottom up. At the bottom is a horizontal slit, 0.05 m. long, 0.01 m. high, made before the jar was fired. Above one of the handles is the inscription $\text{OPE}\Sigma\text{T}\Delta\Delta\text{A}$, scratched after firing, in letters, *ca.* 0.015 m. high, doubtless the name of the owner in the genitive.

Gritty, reddish clay, unglazed. The vase was probably used for squeezing out the must after the grapes had been trampled in the *lenos* (see above p. 19).

43. IP 520. Pl. 17, g. From the House of the many loomweights on the Rachi (p. 18, above).

Trough-like vessel. H. 0.118 m. and 0.15 m., L. 0.55 m., W. 0.27 m. Partly restored.

Coarse fabric, with heavy molded rim, 0.028 m. wide; flat bottom. The vase is divided into two compartments. At one end, which is considerably narrower than the other, there is a circular container with flaring rim, and at the bottom is an opening, 0.04 m. high, 0.102 m. wide, communicating with the larger compartment.

The inside is blackened, and on the bottom is a thick, dark deposit, particularly heavy inside the circular container.³⁶ Although many of the fragments of the vessel were blackened by the fire that destroyed the house, the outside is blackened only in spots; clearly the vessel had not been used over a fire. It was probably a baby's toilet of unique shape.

44. IP 959. Pl. 15, b, *a.* From the Palai-monion area.

Cult lamp. H. 0.073 m., diam. 0.185 m.

³⁶ Analysis kindly made by Dr. George Skalos, Chemist in the Technical University of Athens, has shown that the deposit on the inside of the vessel consists of organic matter, with high silica content.

Deep bowl with flattened rim, and no handle. Socket in the center, with broad slit, for the wick; top of socket blackened. Buff, mealy clay, unglazed.

For the use of this and Nos. 45, 49, 50 see above p. 16.

45. IP 964. Pl. 15, b, b. Same provenance.

Cult lamp. H. 0.085 m., diam. 0.175 m.

Like the preceding. Buff clay, heavy fabric, unglazed.

46. IP 948. Pl. 15, b, c. Same provenance.

Wheelmade lamp. Type XVI. H. 0.032 m., diam. 0.063 m.

Buff clay, mottled red and light brown glaze.

This is an early specimen of Type XVI, Group III (Broneer, *Corinth*, IV, ii, *Terra-cotta Lamps*, pp. 58-60, 150 ff., fig. 78).

Date: First century after Christ.

47. IP 862. Pl. 15, b, d. Same provenance.

Wheelmade lamp. Type XVI. H. 0.033 m., diam. 0.068 m.

Brick-red clay, unglazed.

48. IP 860. Pl. 15, b, e. From area east of the Palaimonion, ca. 0.60 m. above clay flooring.

Relief lamp, Type XXV. H. 0.029 m., W. 0.067 m., total L. 0.107 m. Intact.

Plain rim, rosette on the discus, heart-shaped nozzle. On the base are two indistinct impressions, probably from stamps in the form of a human foot. Buff clay, reddish brown glaze. Probably imported from Italy.

Date: First century after Christ. Cf. *Corinth*, IV, ii, p. 85, fig. 41, 1.

49. IP 1032. Pl. 15, c, a. From sacrificial pit east of the Palaimonion.

Cult lamp. H. to rim 0.05 m., to top of socket 0.079 m., diam. 0.128 m. Nearly intact.

Same general shape as Nos. 44 and 45, but

smaller and less carefully made. The central socket extends above the bowl and has three small slits which do not reach up to the edge. Dark gray, almost black fabric, very coarse. Probably discolored from the fire in the pit (see above p. 17).

Date: Second century after Christ.³⁷

50. IP 1007. Pl. 15, c, b. From sacrificial pit.

Like the preceding. H. to rim 0.04 m., to top of socket 0.056 m., diam. 0.116 m. Intact.

Coarse, dark gray fabric, possibly blackened further by fire from the pit.

51. IP 1051. Pl. 15, c, c. From sacrificial pit.

Small bowl. H. 0.047 m., diam. 0.12 m. Almost complete.

Angular profile with vertical rim and slightly raised base. Grayish brown clay, unglazed, discolored by fire.

This is a direct descendant of Terra Sigillata bowls of the first century after Christ. Cf. Oswald and Price, *Terra Sigillata*, pl. XXXIX, but the shape can be traced back to Hellenistic times. Cf. Homer A. Thompson, *op. cit.*, pp. 373-374, No. D 17, which has a somewhat similar profile and two handles.

52. IP 1025. Pl. 15, c, d. From sacrificial pit.

One-handled beaker. H. 0.086 m., diam. 0.08 m.

Coarse dark brown clay, unglazed. For the probable use of these vessels in the cult of Palaimon see above, p. 16.

53. IP 1053. Pl. 15, c, e. From sacrificial pit.

Beaker. H. 0.08 m., W. 0.088 m. Complete.

Like the preceding, but of somewhat finer fabric. Pressed out of shape in firing.

³⁷ The lamps and vases in Plate 15, c, Pottery, Nos. 49-53, which were found in a closed deposit (see above, p. 17), cannot be earlier than the second century after Christ. This is shown by the Kybele lamp, No. 54, fragments of which were found on the floor of the sacrificial pit.

Vessels of this kind, which doubtless go back to Hellenistic prototypes, have been found at Olympia in context of late imperial times, Kunze and Schleif, *Olympiabericht* IV, 1940-41, p. 84, figs. 56, 57. A similar cup decorated on the shoulder with a net pattern in white paint came from a chicken's grave at Corinth (see *A.J.A.* XXXVII, 1933, p. 569, fig. 13) together with a lamp of the late third century.

54. IP 1055. Pl. 16, a. From sacrificial pit, just above the floor.

Relief lamp, Type XXVII. H. 0.068 m., diam. 0.177 m., total restored length 0.238 m. Restored.

On the rim is a vine pattern, with alternating leaves, tendrils and clusters of grapes. A cult scene occupies the discus. On the left Kybele is seated on a throne, flanked by lions. The head of the lion on her left is barely visible. The goddess wears a crown and a veil that hangs down over her shoulders; her right arm leans against a tympanon, and in her left hand she holds a scepter. Her feet rest on a stool. In front of her stands a tree, apparently a pine, from a branch of which hangs a syrinx. At the extreme right is the figure of Attis, reclining on the ground and leaning his left elbow against a rock. He wears the pointed Phrygian cap, long sleeves and trousers, and a mantle is draped over his shoulders. In front of him lies a double flute. The base of the lamp is largely missing, but at the edge are preserved parts of two letters of the maker's name CЄ[KOYN-

ΔΟΥ]. He was the most productive of the Corinthian lamp-makers in the second century of our era (see *Corinth*, IV, ii, pp. 204, 210, 211, 311, pl. XXXII). At the lower end of the handle there is an X impressed, and below it a vine leaf in relief. The lamp has suffered greatly from fire, and the clay, of a pinkish buff color, has turned dark gray in spots. Like most lamps of this type it is unglazed.

The lamp has some peculiar and interesting features. The size alone sets it apart from the common lamps of Type XXVII, although a few other equally large examples are known. The type of rim pattern, which is characteristic of group 2 of Type XXVII (*Corinth*, IV, ii, pp. 90 ff.), very rarely occurs with pictured reliefs on the discus. For another example of a luxury lamp with a similar figure of Attis but signed by Primus, see Furtwängler, *Samml. Sabouroff*, pl. LXXV. The lamp is said to have come from Sparta but is doubtless of Corinthian manufacture. The pose and drapery of Kybele connect the figure on our lamp with the cult statue in the Metroon in Athens; cf. Homer A. Thompson, *Hesperia*, VI, 1937, pp. 203 ff. The colossal seated statue from the Temple of Poseidon at Isthmia may be a modified copy of the same original, *Hesperia*, XXII, 1953, pp. 189 ff., pl. 59, a-c. There are two small statues of Kybele in the Corinth Museum, both copies of the same original. One, unpublished, was found on Acrocorinth recently, the other is published by F. P. Johnson in *Corinth*, IX, *Sculpture*, No. 55.

ARMOR AND MISCELLANEOUS OBJECTS

1-6. IM 1450, 709, 1799, 1560, 1517, 1567. Pl. 16, b. Six nose guards from bronze helmets with various patterns along the rim and over the eyebrows. These and the cheek pieces, Nos. 7-10 below, are selected from the better preserved of an immense number of fragments, representing at least one hundred helmets, found in the debris from the archaic Temple in the north temenos dump. They illustrate the

great variety of helmets dedicated in the Temple. They have suffered so badly from the fire that destroyed the Temple that comparatively few pieces can be cleaned or even recognized. Many of them were melted into solid lumps.

7-10. IM 1853, 1693, 1676, 1640. Pl. 17, b. Four cheek pieces of bronze helmets from the north temenos dump.

The shapes of the helmets and the patterns along the rim vary a great deal, as shown in the four samples on Plate 17, b.

11. IM 1514. Pl. 17, a. Fragment of bronze rim of a shield with guilloche pattern, from north temenos dump.

L. 0.187 m., W. 0.055 m. The bronze is very thin and fragile.

This seems to have been a standard type of rim decoration for well over two centuries. A simpler form, with double or triple plated bands, occurs on shields from Olympia as early as the seventh century B.C. See Emil Kunze, *Olympiabericht* V, 1956, pp. 35 ff., figs. 24, 25, 28, 34. Another shield from Olympia has a rim almost identical with ours, including the row of small raised dots at the outer edge. See Hampe and Jantzen, *Die Grabung in Olympia im Frühjahr, 1937* (Sonderheft *Jahrb.*, LII, 1937, p. 54, fig. 23, pl. 16; and cf. Kunze and Schleif, *Olympiabericht* II, 1937-38, p. 73, fig. 73, pls. 20, 21). The shield from Pylos, found in the Athenian Agora (*Hesperia*, VI, 1937, pp. 346 ff., fig. 12; 'Αρχ. Έφ. 1937 A, pp. 140-143) has four rows of double braids with eight rows of circular bosses, as on our fragment. A fragment with two rows of double braids from the House of Bronzes at Olynthos is to be dated at about the middle of the fourth century B.C. Cf. *Arch. Anz.*, 1935, p. 569, fig. 18; and D. M. Robinson, *Excavations at Olynthus*, X, pp. 443 ff., fig. 27, pl. CXXXV. Extensive references to other examples are found in the footnotes to his publication.

12. IM 820. Pl. 17, d, top. Fragment of shield rim of bronze, from north temenos dump.

L. 0.27 m., W. ca. 0.043 m. The rim proper is plain and along the inner edge is a row of bolts. Heavy, coarse work, doubtless intended for use in the field.

13. IM 1891. Pl. 17, d, bottom. Shield boss, from early fill in sacrificial area west of Altar II of Poseidon.

Diam. 0.14 m. Along the edge is a row of

raised circles and in the center a plain boss, 0.05 m. in diameter.

14. IM 1256. Pl. 11, c. Fragment of a shield strap, from north temenos dump.

L. 0.20 m., W. 0.138 m. One end and part of the narrow strip from the middle are preserved. The decoration consists of two rampant lions with the figure of a frog between them. Fine repoussé work, probably of the late sixth century B.C.

For the shape of the strap see Kunze and Schleif, *Olympiabericht* II, 1937-38, pp. 78 ff., figs. 50, 51, 59, 60 and for form of decoration cf. *Ibid.*, pls. 27-30.

15-24. Seven spear heads of iron (IM 1060, 1069, 1075, 1061, 1068, 1076, 1066), Pl. 17, c, a-g; and three fragmentary spear butts of bronze (IM 1850, 1686, 1413 + 1483), Pl. 17, c, h-j, from north temenos dump. These are the better preserved of a large number of spears from the debris of the archaic Temple. With these should be compared the spearpoints from Olympia, such as those illustrated by Hampe and Jantzen, *Die Grabung in Olympia im Frühjahr, 1937*, *Jahrb.* LII, 1937, p. 50, fig. 19; *Olympia*, IV, pp. 173 ff., pl. LXIV. They are earlier and very different from the weapons found on the North Slope of the Acropolis in Athens, which seem to date from the time of the Persian invasion in 479 B.C.; see *Hesperia*, IV, 1935, p. 116, fig. 5; and VII, 1938, p. 249, fig. 79.

25. IM 1251. Pl. 11, b. Painted pinax, from archaic deposit west of Altar II of Poseidon.

Preserved H. 0.07 m., W. 0.042 m., Th. 0.006 m.

The fragment preserves the upper part of a figure of Poseidon to right, holding the trident in his right hand and carrying a dolphin on his back—not on his left shoulder, as appears at first sight. There was a painted border, and in the upper corners were holes for suspension. At the edge of the break is preserved a bit of paint, probably from the first letter of an in-

scription, or possibly the edge of a small altar or other piece of furniture. Fragments of two other painted pinakes were found.

These pinakes are very similar to the Penteskouphia tablets in Berlin, *Antike Denkmäler*, I, pls. 7, 8; II, pls. 23, 24, 39, 40; and Erich Pernice, *Jahrb.*, XII, 1897, pp. 9-48. On some of these tablets a dolphin accompanies the figure of Poseidon, but nowhere is the god shown as here carrying the dolphin on his back.

26. IM 954. Pl. 17, e, f. Halter (jumping weight), of coarse-grained, dark gray stone,

found in the manhole to a cistern in the southwest corner of the temenos of Poseidon.

H. 0.08 m., L. 0.182 m., W. 0.10 m., weight 1.850 kg. The cuttings show that the weight was intended to be held in the left hand with the curved side down.

Fragments of three other halteres have been found in the Isthmia excavation.³⁸ Two similar weights in the National Museum in Athens, said to have come from Corinth, are probably also from the Isthmia.³⁹

CONCLUSION

The third campaign of excavation at Isthmia has led to further elucidation of the topography and monuments of the sanctuary, and has shed new light on the two major cults. The principal results are: a) excavation of the debris from the archaic Temple in the north temenos dump, b) discovery of two altars of Poseidon, c) investigation of the temenos walls, d) the surprising discovery of an early Stadium with its intricate starting line close to the Temple of Poseidon, e) discovery and probable identification of the Roman Palaimonion, f) completion of the excavation on the Rachi, and g) clearing of the South Gate with its two towers in the Justinian Fortress.

The more important movable objects came chiefly from the north temenos dump, which produced prodigious quantities of bronze and iron objects, fragments of two Panathenaic amphoras, and the most important single find, the marble *perirrhanterion*. From the area east of the Temple of Poseidon came many pieces of archaic pottery, including the painted pinax with Poseidon carrying a dolphin. The pottery from the Rachi, much of it found in closed deposits, will give much new information about the ceramic industry of Corinth and the importation of pottery from Athens in the fourth and third centuries B.C. The pottery and lamps from the Palaimonion area, especially the peculiar type of lamp apparently used as a cult vessel in the mysteries, provide new evidence for the little known cult of Melikertes-Palaimon. Finally, the

³⁸ *Hesperia*, XXII, 1953, p. 194, pl. 60, f.

³⁹ They are illustrated in E. Norman Gardiner, *Greek Athletic Sports and Festivals*, p. 300, fig. 62, and *Athletics of the Ancient World*, p. 146, fig. 100, e. A much larger stone halter, weighing 4.629 kg., was found at Olympia, *Olympia*, IV, p. 180; and more recently a somewhat similar, though much earlier, weight of stone inscribed with a dedication by the victorious user has been found at the same site, Hampe and Jantzen, *Die Grabung in Olympia im Frühjahr 1937*, *Jahrb.*, LII, 1937, p. 82, pl. 25.

discovery of a complete halter used in the Isthmian Games will be of interest to students of ancient sport. All these objects have been taken to the Museum and store rooms in Ancient Corinth, and some are exhibited in the Hall of Greek Art in the Museum.

The plans for future excavation at the Isthmia give priority to the complete clearing of the sanctuaries of Poseidon and Palaimon, and to the search for the Palaimonion of pre-Roman times.

OSCAR BRONEER

THE UNIVERSITY OF CHICAGO

AREOPAGITES

FROM Koehler's copy Dittenberger in 1878 published a fragment of Pentelic marble as *I.G.*, III, 1279. The stone had been erected at Athens and was inscribed on both sides. One side, in which alone we are interested (III, 1279 A), contained part of a catalogue with names preserved under the column headings Ἐρεχθείδος | Ἀρεοπαγείται and Παν[διονίδος] | Ἀρεοπαγείται including those of Epigonus and Eleutherus, sons of Syntrophus. The heading above the whole catalogue he reconstructed as follows:

Ἄρχων [τοῦ γένους τῶν . . . ἐν τῷ ἐπὶ Μεμμίου]
 Ἐπὶ Βω[μῷ Θορικίου ἄρχοντος ἐνιαυτῷ ὁ δεῖνα τοῦ δέινος]
 ψηφισαμέ[νων τῶν γεννητῶν — — — — ἀνέγραψεν]
 τὰ ὀνόματα [τῶν γεννητῶν — — — —]
 Ἀφροσσίας Φλ[— — — — —]

Dittenberger assigned the inscription to the year A.D. 163/4 (or 162/3), his date for the archonship of Memmius the (Eleusinian) Altar Priest, whose name he restored in lines 1-2 and supported by indicating that the sons of Syntrophus belonged to a family of this period. He also pointed out that this was no ephebic catalogue and that the word Ἀρεοπαγείται each time referred, not to ephebes, but to genuine Areopagites. Kirchner republished the text as *I.G.*, II², 2339 A, but he had no squeeze and had been unable to find the inscription. All he did was to reproduce the essence of Dittenberger's text and interpretation, substituting Kolbe's date¹ for the archonship of Memmius the Altar Priest, namely A.D. 161/2.

Subsequently Markellos Mitsos, Ἀρχ. Ἐφ., 1950-1951, pp. 29-33, made certain valuable determinations, of which the two most important were that the inscription on the other side, i. e. *I.G.*, II², 2339 B = III, 1279 B, is older than *I.G.*, II², 2339 A = III, 1279 A, and has nothing to do with it, and that another fragment, *I.G.*, II², 1999 = III, 1233, belonged to the same catalogue. The first determination I must take on faith since no photograph was offered of the other side, but I have confidence in the writer's discrimination here. However, a photograph was offered of *I.G.*, II², 2339 A and 1999 side by side, and, though not entirely legible, it quite sufficed to prove the second determination, which is very welcome.

In publishing as *I.G.*, III, 1233, the fragment which Mitsos has now added, Dittenberger identified it as from the lower part of an ephebic catalogue. In *I.G.*,

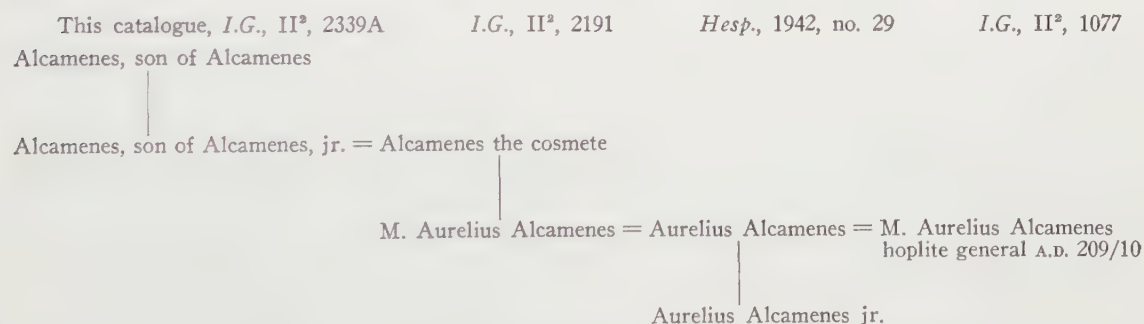
¹ W. Kolbe, "Studien zur attischen Chronologie der Kaiserzeit," *Ath. Mitt.*, XLVI, 1921, pp. 105-156.

II², 1999 Kirchner retained this interpretation and ventured to date the inscription at the end of the first century after Christ.

On bringing the two fragments together Mitsos had to decide between (or against) two dates and between (or against) two interpretations. As for the first question, he ignored the prosopographical evidence and on the basis of the rather inferior lettering he dated the catalogue to the second half of the third century after Christ. Behind this truly surprising judgment lies, I suspect, the tendency, which Arthur Gordon rightly denounces, to call good engraving early and poor engraving late. I deny that the lettering indicates so late a date as the second half of the third century, and I see no reason to rule out the second half of the second century.

The date may, I think, be inferred from three names in the catalogue. The name of Julius Themison of line 24 appears in an inscription, *Hesperia*, XI, 1942, p. 31, no. 1, together with that of a certain undersecretary Myron who appears in catalogues of *aiseitōi* from about 169/70 through about 181. Our Julius Themison, therefore, presumably belongs in the same period, though a homonym cannot be excluded.

In lines 12-13, moreover, Alcamenes, son of Alcamenes, and Alcamenes, son of Alcamenes, junior, of the tribe Erechtheis, are from the same family as Aurelius Alcamenes and Aurelius Alcamenes junior of the deme Lamptrae who appear in a prytany catalogue of Erechtheis (*Hesperia*, XI, 1942, p. 64, no. 29), and from the same family as the cosmēte Alcamenes and the anticosmēte M. Aurelius Alcamenes of Lamptrae in the ephebic catalogue *I.G.*, II², 2191 = III, 1165, dated by Kirchner "c. a. 200 p." The three pairs in the three catalogues are not, I think, identical. Rather I should now arrange them as follows:



The family clearly obtained its Roman citizenship before the reign of Caracalla. In fact, it seems to have obtained it from Commodus. Hence our catalogue antedates the death of Commodus. For many years a certain Memmius — of Thoricus had been Altar Priest. In the joint reign of Marcus Aurelius and Commodus he was honored on a monument, *I.G.*, II², 3620, for having served the two goddesses for forty-six years. There is more evidence on the date of Memmius the Altar Priest and his apparently nearest successor, Claudius Sospis of Melite, in the catalogues of

aيسةτοι, but the evidence is capable of more than one interpretation.² I think it is fair to say that only two names come into consideration, those of Memmius and of Claudius (Sospis). The title replaces during his life the cognomen which counts as the priest's personal name.

Of course an archonship of the city is attested for Memmius and for no other Altar Priest. In view of *S.E.G.*, XII, 156, it can probably be excluded in the case of Claudius Sospis. But here again we have no proof that the archonship mentioned in the extant letters of line 1 was that of the city, even though a date by archon somewhere seems to me indispensable and there is no room for the date in lines 3 and 4. The date must have stood in the phrase ἐν τῷ ἐπὶ Μεμμίου | Ἐπὶ Βωμ[ῶ] ἄρχοντος ἐνιαυτῷ restored by Dittenberger in lines 1-2 or in a line now lost above the extant lines.³ But Dittenberger's restoration of the extant letters of line 1 as Ἄρχων [τοῦ γένους on analogies in *I.G.*, II², 2338 and 2340 seems to me unacceptable. No catalogue of a genos should be divided into Areopagites and non-Areopagites; it should stress unity. Therefore Dittenberger's restoration of the office mentioned in line 1 and his restoration of line 4 as ἀνέγραψε | τὰ ὀνόματα [τῶν γεννητῶν] are very probably mistaken. Mitsos, on the other hand, restores in line 4 τὰ ὀνόματα ἀ[νέγραψε τῶν Ἀρεοπαγειτῶν]. This restoration conflicts with the evidence of the catalogue itself, because if the heading labeled the list as a catalogue of Areopagites, there would be no point in repeating the word Areopagites under each tribal heading. Furthermore, the position of the word in line 46 can be explained only on the assumption that a word or phrase of five letter spaces preceded; this phrase, οἱ οὐκ or οὐ τῶν, would divide each tribal panel into Areopagites and the rest, lumped together merely as non-Areopagites.⁴ The catalogue was surely divided into Areopagites and non-Areopagites, even if both of the proposed restorations are wrong, i.e. even if the non-Areopagites are not all lumped together in each tribal panel. Therefore the restoration τῶν Ἀρεοπαγειτῶν proposed by Mitsos for line 4 is certainly mistaken. He himself was not quite clear about it, because on p. 33 he concluded that they were ephebes. If so, they would not have been called Areopagites in the overall heading. And who ever heard of father and son (as are the men mentioned in lines 12 and 13) serving as ephebes in the same year?

² See James A. Notopoulos, "Studies in the Chronology of Athens under the Empire," *Hesperia*, XVIII, 1949, pp. 22-23. He is certainly mistaken in assuming that the chief Eleusinian priests did not have lifelong tenure, but even so, he may have in individual datings been nearer the truth than I am in my note "On the Order of the Athenian Catalogues of *Aيسةτοι*," *Harvard Theological Review*, XLIII, 1950, pp. 233-235.

³ Eugene Vanderpool, who kindly examined the stone for me, writes, "There is no sign of a moulding or a finished top surface on the fragment as preserved, so I think there could physically have been another line (or lines) above the present line 1."

⁴ For a parallel see the Roman Oration 63 where Aelius Aristides tells the audience that they have now divided the world εἰς Ῥωμαίους τε καὶ οὐ Ῥωμαίους. Compare *I.G.*, II², 839 = II, 403 for a contrast between Areopagites and non-Areopagites.

Another approach is possible from the evidence of line 5, where my predecessors read Ἀφεισσίας (thought to be a name) and I read Ἀφ' ἐστίας [T] Φλ[— —]. Line 5 is in large letters too, but distinguished by a change of script. The change of script means, I think, that line 5 is separate from the section represented by lines 1-4. If my reading is correct, line 5 contains the name of the παῖς μνηθεὶς ἀφ' ἐστίας. At each *panegyris* one eupatrid child, chosen by the Council, was initiated first in behalf of the city as a whole. Great honor accrued to the child's family, and in one case at least the honor elicited from the grateful father a magnificent endowment for future *panegyreis*.⁵

If, then, line 5 contains the name of the child initiated ἀφ' ἐστίας, it follows that the catalogue is a catalogue of persons initiated at one *panegyris*.

Since about eight hundred Athenian catalogues are known but no other catalogue of *mystai*, I assume that it was not the custom to engrave such lists on permanent material⁶ and that our extraordinary inscription arose in commemoration of an extraordinary *panegyris*. Within the chronological limits of our inscription there were only two such *panegyreis*, that at which Lucius Verus was initiated in the spring of A.D. 165 and that at which Marcus Aurelius and Commodus were initiated in Boedromion of A.D. 176. The two events were separated by eleven unhappy years, and the initiation of Marcus Aurelius and Commodus did not come at so prosperous a time and did not have the novelty and excitement of the visit by Lucius Verus. The year 164/5 was that in which the Mysteries were celebrated twice in order to give Lucius Verus a chance to be initiated: δις ἐπὶ τῷ ἔτει ἀγαγόντα μυστήρια καὶ τοῦτο κατὰ τὸ θεμιτόν, as *I.G.*, II², 3592, the monument of the hierophant, says. The year of our inscription would seem to be that of A.D. 164/5.

Does this inference, if correct, exclude Dittenberger's restoration, ἐν τῷ ἐπὶ Μεμμίου]] Ἐπὶ Βωμ[ῶ Θορικίου ἀρχοντος ἐνιαυτῷ? Yes, if one follows the chronology of Kolbe, Kirchner and Notopoulos. But not all twentieth-century students of Athenian chronology of the Roman Period have with Kolbe dated the archonship of Memmius the Altar Priest in A.D. 161/2. Paul Graindor dated it in 164/5 and publicly controverted Kolbe's arrangement.⁷ It may be mere coincidence but it is striking nevertheless.

⁵ J. H. Oliver, "The Eleusinian Endowment," *Hesperia*, XXI, 1952, pp. 381-399 with references in note 37 to ancient sculpture and modern literature on the παῖς μνηθεὶς ἀφ' ἐστίας. From Attic inscriptions, moreover, the author has collected over forty references to these children for discussion in a book on Roman Athens. The earliest reference occurs before 460 B.C. in an inscription where the reader should consult the corrections and restorations of B. D. Meritt, *Hesperia*, XV, 1946, p. 253 or *S.E.G.*, X, 6.

⁶ Among expenses mentioned in *I.G.*, I², 313 are, in lines 161-2, σανάδια ἐν ο[ι]ς τὸς μύστας κ[αταγ]ράφ[οσι] | Ἑῤῥῖῤῥ Εὐμολπίδαις.

⁷ Paul Graindor, *Chronologie des archontes athéniens sous l'empire*, Brussels, 1922 (*Mémoires de l'Académie de Belgique*, 4^o, 1921), p. 162; *Album d'inscriptions attiques d'époque impériale*, Ghent, 1924, pp. 6 ff.

The next step is to clarify the extant reference to an "archon" at the beginning of line 1. What "archon" would have been likely to set up a list of initiates? The archon of the Eumolpidae and the archon of the Ceryces come to mind as possibilities, but I do not see why either should have done so unless he happened at the same time to be performing the personal liturgy of a panegyriarch. Can we restore the title of the panegyriarch? The participle *πανηγυριαρχῶν* occurs at Athens several times,⁸ but a noun *πανηγυριάρχης* has never been found at Athens. The noun may have been sometimes or even regularly replaced by the phrase *ἄρχων τῆς πανηγύρεως*, just as the noun *γενεάρχης* was replaced in *I.G.*, II², 2338 by the phrase *ἄρχων τοῦ γένους*. Similarly the word *γερονσιάρχης* has not appeared at Athens, only the phrase *ἄρχων τῆς γερονσίας*. But even if the word *πανηγυριάρχης* had occurred once or twice, we could still restore *ἄρχων* [*τῆς πανηγύρεως* as suitable here in view of line 5.

Would this inference, if correct, exclude the possibility of interpreting the reference to the Altar Priest as a nominative instead of a genitive? The Athenian inscription *S.E.G.*, XII, 156, which mentions the deceased Altar Priest, Claudius Sospis, as a distinguished ancestor of the woman honored, does not say that he had served as panegyriarch. I should have expected it to do so if he had performed the liturgy at his own expense, but the liturgy in his case cannot be excluded with absolute certainty. *I.G.*, II², 3620, dated between A.D. 177 and 180, gives us the honors and liturgies of Memmius the Altar Priest. He certainly never served as panegyriarch at his own expense on either occasion, though it does mention that he initiated both Lucius Verus and Marcus Aurelius with Commodus. Since Claudius Sospis was not yet Altar Priest on either occasion, we must rule him out for these two occasions

⁸ In Attic inscriptions the following are mentioned as *ἄρχαντες καὶ πανηγυριαρχήσαντες*:

T. Flavius Leosthenes of Paeania	<i>I.G.</i> , II ² , 3592 = <i>S.I.G.</i> ³ , 869
T. Flavius Alcibiades "	" " " = " "
[T. Flavius Leosthenes II] of "	" " " = " "
Tib. Claudius Lysiades of Melite	" " 3609 = III, 676
[Aelius Praxagoras?]	" " 3614 = <i>B.C.H.</i> , XXXVIII, 1914, p. 431
[Kinsman of foregoing]	" " 3615 = <i>Ἀρχ. Ἐφ.</i> , 1894, p. 203
Herennius Dexippus of Hermos	" " 3669 = III, 716
Hegias, son of Timocrates, <i>v. c.</i>	" " 3692 = III, 709

A. Raubitschek, "Commodus and Athens," *Studies in Honor of T. Leslie Shear* (*Hesperia*, Suppl. VIII, 1949), p. 284, reexamining *I.G.*, II², 1792 (*πανηγυριαρχοῦντος*]), recognized that also the emperor Commodus once performed the financial liturgy of the panegyriarch. The restoration of this inscription has, I think, been improved in *A.J.P.*, LXXI, 1950, pp. 174-177, but since the Mysteries were celebrated every year, one argument advanced against Raubitschek's date at which Commodus undertook the expense falls away. *Panegyreis* at Eleusis are attested by authors including Aelius Aristides, *Eleusinian Oration*, 258, 16 (Jebb) and 259, 4, and by the following inscriptions: *I.G.*, II², 1191 (= *S.I.G.*³, 1048), 3500 (= III, 649), and *Hesperia*, XXI, 1952, p. 381. Finally, a decree, well published by G. A. Stamires, *Hesperia*, XXVI, 1957, pp. 246-258 but with an incorrect restoration of lines 1-2, may have commenced [*Ἐπὶ ἄρχοντος Ἀπολήξειδος, πανηγυριαρχοῦντος Ἀντι*[- - -]].

at least, but Memmius the Altar Priest could have been the archon of the festal assembly at the city's or the emperor's expense on either occasion. Since I can hardly imagine Lucius Verus not paying for the second *panegyris* of A.D. 164/5, I conclude that the name of Memmius the Altar Priest may be restored in either the nominative or the genitive, though not in the genitive unless one accepts Graindor's chronology.

Since Column I of the catalogue contained the record of the two first tribes in the official order, there were probably six columns of names of male citizens and at least two columns of non-citizens including part of the emperor's entourage. Therefore the restoration of the heading should, I think, have lines 1-3 long enough to cover eight columns. Now the formula of line 3 may have read *ψηφισαμένων τῆς βουλῆς τῶν Φ καὶ τοῦ δήμου τοῦ Ἀθηναίων* (with or without the two last words) or, in the short version, *ψηφισαμένης τῆς πόλεως*. The long version, more likely over a catalogue, gives ample room in line 2 for the non-paying substitute panegyriarch's name, which the formula must not separate from the word *Ἀρχων*. Hence a restoration of the name of Memmius the Altar Priest in the genitive as that of the eponymous magistrate is not excluded even from this standpoint, but I prefer to retain Kolbe's chronology.

Since in the quite separate line 5 the word *μνηθείς*, a part of the formula, was unnecessary, this word in some form must have been used at the end of the prescript, i. e. in the lost section of line 4. It becomes in fact an obligatory restoration.

The accompanying new text of the inscription is based on the readings of those who have, unlike the author, seen the actual stone but also on the author's consultation of photograph and squeeze.

Each tribal panel begins with the (active) Areopagites who take precedence over all other Athenians, even over those who have entered the imperial service. In lines 26-29, where Dittenberger read *Ὁκρά(τιος)*, I read a predicate of rank, *ὁ κρά(τιστος)*, suitable for a member of the equestrian order, because in each case one nomen is sufficient. The *equites*, I think, are not Areopagites or at least not active Areopagites. Athenians of senatorial or equestrian rank in the Roman world probably enjoy, at Athenian public functions, the precedence and privileges of Areopagites, by law, even without having served in an Athenian archonship.

The tribe in line 41 can be restored either [*Αἶγ*]εἶδος or [*Οἶν*]εἶδος.

Under Erechtheis there appear at least eight Areopagites, under Pandionis probably eight. On Column I of fragment B* probably three Areopagites once appeared right after line 42, certainly not more than three in whatever tribe this was. If all or most of the Areopagites were initiated on this occasion, how large a corporation was it?

If all nine archons normally entered every year, it would according to Bruno

Fragment A

[-----]	
ἄρχων [τῆς τῶν μυστηρίων δευτέρας πανηγύρεως Μέμμιος]	
Ἐπὶ Βωμ[ῶ] Θορίκιος μνήσας Ἀντοκράτορα Λούκιον Οὐήρον]	
ψηφισαμέ[νων τῆς βουλῆς τῶν Φ καὶ τοῦ δήμου τοῦ Ἀθηναίων]	
τὰ ὀνόματα ἀ[νέγραψε τῶν μετὰ τοῦ Ἀντοκράτορος μνηθέντων]	
5	Ἀφ' ἐστίας [Τ] Φλ[-----]
	Ἐρεχθείδος Παν[διονίδο]ς
	Ἀρεοπαγείται Ἀρεοπαγείται
	Ἐπίγονος Συντρόφου Αἴλ [---]ς
	Μέμ Πιστοκράτης Αἴλ Σ[---]ενος
10	Ἐλεύθερος Συντρόφου 20 Ἰού Ἱέρων
	[...]ρ Θεόξενος Ἰουλῆ Στρατόλας
	[Ἀλκ]αμένης) Αὐρ Δημύλος
	[Ἀλκ]αμένης)νε [Ἰο]ύλ Φίλιππος
	[... Δ]ημήτριος Ἰουλῆ Θεμίσων
15	[Ἀσκλ]ηπιάδης Κάρπου 25 Ἀσκληπιάδης Δημ[---]
	[-----] ὁ κῤά Ἐρέν Ῥούφος
	ὁ κῤά Κοῤ Μαρ[---]
	ὁ κῤά Κοῤ Μα[---]
	[-----]

About six
columns
missing

Fragment B

	[-----]		[-----]	
	[..... Ἀ]ττικοῦ		[.]η[-----]	
30	[..... Πα]υσανίου		M[-----]	
	[.....] Θεογένους)	55	Ἀπ[....]σ[---]	
	[..... Θ]εογένου[ς]		Θεμ[ισ]τοκ[λή]ς [-]	
	[.....]νης Ἀσκληπι[άδ]ου		Ἀσκλη[η]πιάδ[η]ς E[- -]	
	[.....]ος Φίρμου		Ἀθῆ[να]ιος Μουσων[ίου]	
35	[....]σιος Φίρμου		Ἀρτεμίδωρος Αὐτοβούλο[υ]	85
	[....] Ἀθηνόδωρος	60	Διογένης Παυλείνου	
	[.....]ς)		Αἴλ Καλλίας	
	[.....]μος ὁ κ(αὶ) Ἀριστόβουλ-		Παυλεῖνος)	
	[.....]νος)		Ἀρχικλῆς ὁ καὶ [Εὐ]σχήμων	
40	[Ἀφρο]δείσιος Κέλσου		Καλλίας ὁ κ[αὶ]ιος	
	vacat	65	Ζωσιμιανὸς Θεράνδ[ρ]ου	
	[... ..]εἶδος		Αὐτόβουλος ὁ κ(αὶ) Ἀρτεμίδωρ	
	[Ἀρεοπ]αγέται		Ἀπολλωνίδης Μέμνονος	
	[.....]λιανός		Λεωνίδης Παμφίλ[ου]	
	[-----]		Μηνόδωρος Διογέ[νους]	
45	[.....]ος	70	Ἀπολλώνιος Διογέ[νους]	
	[οἱ οὐκ Ἀρ]εοπαγ/		Κάσιος Ἐπαγάθου	
	[-----]		Ζώπυρος Ἀγαθωνύμ[ου]	
	[--- Φρο]ντειῦ		Κέλαδος Ἀρτεμισίου	
	[-----]έσιος		Διονύσιος Ἀρτεμισ[ίου]	
50	[-----]ίου	75	Ἀντίοχος Ἀλεξάν[δρου]	
	[-----]ηνος		Εὐόδος Ἀγαθωνύ[μου]	
	[-----]υ		Βότρυς Δημύλου	
	[-----]		Δημύλος)	
			vacat	
			vacat	
			[Ἀσ]κληπιάδης)	
		80	Ἄνθος Ἀσκληπιάδ[ου]	
			Ἰουλιανὸς Ἀσκλη[πιάδου]	
			Λικ Ζώσιμος	
			[-----]	

READINGS AND RESTORATIONS: 1-2 Oliver; Ἀρχων [τοῦ γένους τῶν - - - ἐν τῷ ἐπὶ ἄρχοντος Μεμνίου] Ἐπὶ Βω[μῷ Θεορικού ἐνιαυτῷ Dittenberger. 3-4 Oliver; ψηφισαμέ[νων τῶν γεννητῶν - - - ἀνέγραψεν] τὰ ὀνόματα [τῶν γεννητῶν Dittenberger; τὰ ὀνόματα ἀ[νέγραψεν τῶν Ἀρεοπαγαιτῶν Mitsos. 5 Oliver; Ἀφεισσίας /// Φλ Dittenberger and Kirchner. 46 οἱ οὐκ Oliver. 65 Θερ<σ>άνδ[ρ]ου Mitsos. 30, 43, 48, 59, 68 and 82 were improved by Kirchner, 23, 26, 31, 46, 62, 65 and 66 by Mitsos; the rest is due chiefly to Dittenberger (and Pittakys).

Keil have been a body of about 150.⁹ Keil¹⁰ says, "von der Mitte des 1. Jahrh. ab können aus den jährlich abtretenden Archonten nur die beiden höchsten, der Eponymos und Basileus, in den Areopag gelangen." He had two reasons for this view. One was the preconceived and unsupported idea that Rome deliberately changed the government of Athens into what Rome could most easily dominate, namely a very small oligarchical council over the democratic organs.¹¹ Secondly he pointed to the known heralds of the Areopagus who with one exception (he overlooked *I.G.*, II², 3668 which I restore τὸν γενόμενον π[ολέμαρχον]) had been either eponymous archons or kings. But since only eponymous archons or kings were likely to be prominent enough to aspire to the speakership of the Areopagus, the argument is worthless.

The Areopagus can hardly have been a corporation of about thirty as Keil thought, nor even of about forty-five (as if recruited from the three chief archons). The three chief archons, who had greater expenses, were often chosen from young men, whereas the thesmothetes perhaps tended to be more mature. Hence the ex-thesmothetes may not have averaged as many years as the others in the Areopagus. Again the archonship was occasionally held by foreigners who did not stay on in Athens. Therefore the Areopagus, even if recruited from all nine archons, need not have had quite the membership (150) calculated by Keil. There were thirteen Athenian tribes in this period, and if two-thirds of them had eight Areopagites being initiated in the second *panegyris* of 164/5, there were more than 50 Areopagites all told. I think we must conclude that all nine archons were still being promoted under normal circumstances.

JAMES H. OLIVER

THE JOHNS HOPKINS UNIVERSITY
BALTIMORE, MARYLAND

⁹ Bruno Keil, *Beiträge zur Geschichte des Areopags* (Berichte über die Verhandlungen der Sächsischen Akademie der Wissenschaften zu Leipzig, Philologisch-historisch Klasse, LXXI, 1919, Heft 8), p. 89.

¹⁰ *Ibid.*, p. 84. Mitsos, p. 32, is mistaken in saying that Keil thought all nine entered the Areopagus.

¹¹ Keil mentions also (p. 85) Plutarch, *Pericles* 9, on the recruitment of the Areopagus in the fifth century from the nine archons who were chosen by lot; if their administration met with approval, they entered the Areopagus. The difference which Plutarch implies was not, I think, the number nine. I shall treat these questions in my book.

THE RECOVERY OF HELEN

IT is my purpose here to examine aspects of the iconography of the Recovery of Helen on the night that Troy fell. The attempt seems the more worth while now that a canonical pattern of interpretation is likely to be established by Kunze's short but authoritative study and by the detailed, well-illustrated treatment in the recent book by Mme. Lilly B. Ghali-Kahil.¹

The main episodes of the Recovery, established by the end of the sixth century B.C., are credited to the Cyclic Epic poets Arktinos and Lesches, the lyricists Ibykos and his older contemporary Stesichoros. The first three alone are concerned with the iconography of the Recovery as it appears during the sixth and fifth centuries B.C.²

The earliest extant reference to an episode of the Recovery is found at *Andromache* 627-631, Euripides' play staged about 425 B.C.³ The old lord Peleus speaks, insulting Menelaos:

ἐλὼν δὲ Τροίαν . . .
οὐκ ἔκτανες γυναῖκα χειρίαν λαβών,
ἀλλ', ὡς ἐσείδες μαστόν, ἐκβαλὼν ξίφος
φίλημ' ἐδέξω, προδότιν αἰκάλλων κύνα,
ἥσσω πεφυκὼς Κύπριδος, ᾧ κάκιστε σύ.

When you took Troy, you failed to put your wife to death, though you had her in your power—on the contrary, when you looked at her breast, you threw away your sword and accepted her kiss, caressing the traitorous bitch, you miserable wretch, born slave to lust.

¹ E. Kunze, *Archaische Schildbänder (Olympische Forschungen, II, 1950)*, pp. 163-167; Lilly B. Ghali-Kahil, *Les enlèvements et le retour d'Hélène*, Paris, 1955, particularly pp. 31-32, 39-43, 49-51, 71-112, 325-326. The study by N. Verdeles, 'Αρχ. Έφ., 1937, Part III (issued 1956), is useful for its publication of Athens 14983, a hydria by Polygnotos (Beazley, *A.R.V.*, p. 681, no. 54).

² As for Stesichoros, a scholiast explains Electra's verse at Euripides, *Orestes* 1287, ἀρ' ἐς τὸ κάλλος ἐκκεκώφονται ξίφη thus: ἀρα εἰς τὸ τῆς Ἑλένης κάλλος βλέψαντες οὐκ ἐχρήσαντο τοῖς ξίφεσιν· οἷόν τι καὶ Στρησίχορος ὑπογράφει περὶ τῶν καταλείβειν αὐτὴν μελλόντων. φησὶ γὰρ ἅμα τῷ τὴν ὄψιν αὐτῆς ἰδεῖν αὐτοὺς ἀφεῖναι τοὺς λίθους ἐπὶ τὴν γῆν. . . . (Schwartz, *Scholia in Euripidem*, I, p. 214). Electra: Did her beauty deafen their swords? The scholiast: That is, did they fail to use their swords when they beheld the beauty of Helen. Stesichoros, too, suggests something similar about those who were on the point of stoning her. For he says that the moment they saw the way she looked they let their stones fall to the ground. . . . Who οἱ καταλείβειν αὐτὴν μέλλοντες were, the scholiast does not say, nor does he locate the place. If the reference is to be taken as an incident in the Recovery, the inference must remain an assumption. (On the difficulty of reconstructing Stesichoros' *Persis* see Schmid, Stählin, *Geschichte der griechischen Literatur*, I, 1, p. 475). The Tabula Iliaca Capitolina, which claims to picture incidents of an Iliupersis by Stesichoros, shows in one scene a half-naked woman attacked by a sword-wielding warrior as she stumbles on the steps of a building identified by inscription as ἱερὸν Ἀφροδίτης (H. Stuart-Jones and others, *Cat. of Sculptures*, I, *Museo Capitolino*, pp. 165 ff., pl. 41): ". . . ganz unsicher ist, wie weit die Bilder der Tabula Iliaca wirklich . . . aus dem Stesichoreischen gedicht entnommen sind. . . ." (Schmid, Stählin, *loc. cit.*).

³ For the date, Schmid, Stählin, *op. cit.*, I, 3, p. 197 and p. 405, note 5.

In three mss. of the play the scholia report of the passage quoted:

. . . ἄμεινον ᾧ κονόμηται τοῖς περὶ Ἰβυκον· εἰς γὰρ Ἀφροδίτης ναὸν καταφεύγει ἡ Ἑλένη
κακείθεν διαλέγεται τῷ Μενελάῳ, ὃ δ' ὑπ' ἔρωτος ἀφίησι τὸ ξίφος.

It is managed better in the works of Ibykos; for Helen flees to Aphrodite's temple, and from there parleys with Menelaos, and because of love he drops his sword.

The scholion in one of the three mss. adds:

τὰ παραπλήσια <τούτοις καὶ Ἰβυκος ὁ> Ῥηγίνος ἐν διθυράμβῳ φησίν.

An account similar <to this also Ibykos> of Rhegion gives in a dithyramb.

Schwartz reports the lacuna in this ms., Marcianus 471, large enough for three or four words and restores the phraseology on the assumption that the addition is simply a more summary variant of what precedes, himself noting Wilamowitz' observation that the preceding sentence reports the fact that Ibykos' treatment of the meeting differed from that of the Euripides passage.⁴ If one assume that Ibykos is correctly restored in the lacuna,⁵ the possible interpretations of the addition of Marcianus 471 are as many as the possible antecedents of τὰ παραπλήσια, "similar account." (1) If the antecedent is Peleus' insult, ἐλὼν δὲ Τροίαν . . . ᾧ κάκιστε σύ, then Schwartz' hypothesis is correct and the whole scholion in Marcianus 471 is a conflation of notes which once stood in two different commentaries. One commentator, on this hypothesis, listed the episodes of the Meeting as told by Ibykos and approved his version over that to be inferred from the phrasing of Peleus' insult (Menelaos sees Helen,—if Peleus says breast, it is only to color his insult,—throws away his sword, falls to petting her). The other commentator in his note on the passage simply called attention to the existence of similarity between the version of the meeting implied by Peleus' insult and the version in a dithyramb of Ibykos and did not specify the extent of the similarity. (2) If τὰ παραπλήσια refers to the preceding sentence of the scholion in Marcianus 471, then obviously the scholion claims two occasions when Ibykos wrote on the Recovery of Helen: (a) the work where Helen flees to Aphrodite's temple, etc.; (b) a dithyramb in which he gave an account of the Meeting similar to that found in his other work. On neither interpretation can one suppose a scholiast to be claiming

⁴ *Scholia in Euripidem*, II, p. 293.

⁵ It is not, I suppose, impossible that the reference was to Kleomenes of Rhegion, a choral lyricist contemporary with Aristophanes (Schmid, Stählin, *Gr. Lit.*, I, 1, p. 479); or to Glaukos of Rhegion, turn of the fifth and fourth centuries B.C., whose work *On the Ancient Poets* is attested (Pauly-Wissowa, *R.E.*, s.v. Glaukos no. 36); or even to the historians Hippys, fifth century B.C., and Lykos, third century B.C. (*R.E.*, s.v. Hippys and s.v. Lykos no. 50)—or, for that matter, to some other person completely unknown to us. If the lacuna in fact contained the name of another than Ibykos, we are without guide to the detail of the treatment of the Meeting in the dithyramb of this Anonymous, for the extent to which "similar account" (τὰ παραπλήσια) differs from "same account" (τὰ αὐτά) is a matter to be determined for any particular circumstance.

that Ibykos anywhere wrote a version of the Meeting like that implied by the phrasing of Peleus' insult.

The second earliest extant reference to the Meeting stands in a play of Aristophanes. In the opening scene of *Lysistrata*, produced in 411 B.C.,⁶ women delegates are assembled from the belligerents in the Great War between Athens and Sparta, and the chief of the Athenian delegation sketches the detail of her scheme for stopping hostilities (lines 149-154):

εἰ γὰρ καθήμεθ' ἔνδον ἐντετριμμέναι
καὶ τοῖς χιτωνίοισι τοῖς ἀμοργίνοις
γυμναὶ παρίοιμεν δέλτα παρατετιλμέναι,
στύουσιντο δ' ἄνδρες κάπιθυμοῖεν σπλεκοῦν,
ἡμεῖς δὲ μὴ προσείμεθ' ἀλλ' ἀπεχοίμεθα,
σποινδὰς ποιήσαιντ' ἂν ταχέως, εὖ οἶδ' ὅτι.

. . . if we wore make-up and perfume around the house and if we paraded in front of them, naked in our slips of sheer amorgis-cloth, pubes plucked to delta-shape,⁷ our husbands would be aroused and would be wanting very much to make love with us. But if we didn't let them come near us, kept ourselves away, they would negotiate a Treaty of Peace soon enough, I know very well.

And the Spartan delegate's comment (lines 155-156):

ὁ γῶν Μενέλαος τὰς Ἑλένας τὰ μᾶλά πα
γυμνὰς παρανιδῶν ἐξέβαλ' οἶῶ τὸ ξίφος.

At any rate, when Menelaos caught a glimpse of Helen's breasts,—naked in whatever way,—he threw away his sword, I guess.⁸

The scholia in the Codex Ravennas of Aristophanes preserve a note on the Spartan delegate's remark:

ἡ ἱστορία παρὰ Ἰβύκω· τὰ δὲ αὐτὰ καὶ Λέσχης ὁ Πυρραῖος ἐν τῇ μικρᾷ Ἰλιάδι, καὶ Εὐριπίδης·

The story is in Ibykos; and Euripides: "when you looked at her breast, you threw away your sword and accepted her kiss."⁹

Again there is a fuller version of the note. The Codex Leidensis-Vossianus of *Lysistrata* has:

ἡ ἱστορία παρὰ Ἰβύκω· καὶ Εὐριπίδης· ἀλλ' ὥς ἐσεῖδες μαστὸν ἐκβαλὼν ξίφος φίλημ' ἐδέξω.
ἀλλ' ὥς, κ.τ.λ.

The story is in Ibykos; and Lesches of Pyrrha has the same account in his *Little Iliad*; and Euripides, etc.¹⁰

⁶ Schmid, Stählin, *Gr. Lit.*, I, 4, p. 206.

⁷ For δέλτα παρατετιλμέναι see Wilamowitz' *Aristophanes Lysistrata*, p. 132, note to line 151.

⁸ Interpreted *infra*, p. 57.

⁹ Rutherford, *Scholia Aristophanica*, II, p. 164 *ad* 155 (Rutherford mistranslates the quotation from Euripides, doubtless neglecting for the moment to consider its context).

¹⁰ Rutherford, *loc. cit.*, Stein, *Scholia in Aristophanis Lysistratum*, p. 9 *ad* 155.

All the Ravennas note says is that Ibykos wrote about the Meeting of Menelaos and Helen; for what he wrote we must turn to the scholion on *Andromache* 630. Codex Leidensis-Vossianus claims, in addition, that Lesches has the story as found in Ibykos.

The Aristophanes scholia have a further reference to Ibykos and the Recovery. At *Wasps* 713-714 Philokleon complains:

οἶμοι τί πέπονθ' ; ὥς νάρκη μου κατὰ τῆς χειρὸς καταχεῖται
καὶ τὸ ξίφος οὐ δύναμαι κατέχειν, ἀλλ' ἤδη μαλθακός εἰμι.

What's the matter with me! Paralysis is spreading through my hand and I can't hold my sword, but now am soft and weak!

The scholion glosses *μαλθακός*, the word translated "soft and weak":

ἀντὶ τοῦ Μενέλαος· τοῦτον γάρ φασιν ὀρμήσαντα ἐπὶ τὴν Ἑλένην ἀποβαλεῖν τὸ ξίφος· ἡ ἱστορία παρὰ Ἰβύκῳ.

Malthakos, instead of Menelaos, for he is said to have rushed at Helen, then thrown away his sword. The story is in Ibykos.¹¹

In *Die Griechische Heldensage* Carl Robert associated ὥς ἐσείδες μαστόν of *Andromache* 629 and τῆς Ἑλένας τὰ μᾶλα . . . γυμνᾶς of *Lysistrata* 155-156, omitted the ἡ ἱστορία παρὰ Ἰβύκῳ of the scholion to *Lysistrata*, and so concluded that by its phrase τὰ δὲ αὐτὰ the scholion claimed for Lesches' treatment of the episode of the reconciliation ὁ . . . Μενέλαος τῆς Ἑλένας τὰ μᾶλα . . . γυμνᾶς παρανιδὼν ἐξέβαλε . . . τὸ ξίφος—" . . . beim Anblick ihrer schönen Brüste liess er das Schwert sinken." The conclusion so reached, by somewhat arbitrary handling of evidence, Robert carried over to his interpretation of scholion *Andromache* 630 for the Recovery according to Ibykos: "Ibykos . . . liess Helena . . . ihn . . . um Verzeihung anflehen [actually the scholion's *διαλέγεται* is not so specific], die er ihr auch beim Anblick ihrer schönen Brust gewährt." ¹² Mme. Ghali follows Robert's interpretation of the passages, but illogically refuses to accept her own position, holding the scholiasts surely wrong to claim for Lesches, or even for Ibykos, a "scène piquante . . . trop moderne." ¹³ What all these scholia seem actually to say is this. Neither the playwrights' Peeping-Tom motive of Helen's breasts, draped or naked, nor the Euripidean series of derogatory epithets is to be found in the Ibykos version of the Meeting (schol. *Andromache* 630).

¹¹ Rutherford, *op. cit.*, II, p. 413 *ad* 714. ἀντὶ τοῦ R: ὥσπερ ὁ Aldine, Rutherford. ὀρμήσαντα R, V: ὀργήσαντα Rutherford tentatively (further, *infra*, p. 52, note 26). After Ἰβύκῳ the Codex Venetus adds καὶ Εὐριπίδῃ. παίζει δέ, ἐπειδὴ ξίφος ἤτησε, καὶ ὀρᾷ ἑαυτὸν κατακρατηθέντα.

¹² Preller, Robert, *Gr. Mythologie*, II, p. 1263 with note 4 and p. 1264 with note 3. In this publication of 1923 Robert condensed his interpretation of 1881 (*Bild und Lied*, pp. 76-78) and ignored E. Löwy, *Wiener Studien*, XXXIV, 1912, p. 285, where schol. *Lys.* 155-156 was sensibly referred "nur auf das Allgemeine des Vorgangs."

¹³ *Hélène*, pp. 31, 42. Mme. Ghali refers to Ibykos' *Iliupersis*. He may have had a poem so called; the title is not attested.

What is found in the Ibykos version is: (a) The flight to the temple (schol. *Andromache* 630, with schol. *Wasps* 714 where, however, sanctuary is not mentioned and the pursuit is stated from the point of view of Menelaos' attack rather than from that of Helen's flight); (b) conversation between Helen and Menelaos (schol. *Andromache* 630); and (c) the dropping of the sword (schol. *Andromache* 630, using to describe the action in Ibykos the verb ἀφιέναι, more appropriately "drop, let fall," than "throw away"; Euripides at *Andromache* 629 and Aristophanes at *Lysistrata* 156, each appropriately enough for his context, use for Menelaos' action ἐκβάλλειν "throw away"; and the scholiast at *Wasps* 714 with his ἀποβάλλειν, a synonym of ἐκβάλλειν, is doubtless under the influence of the opening scene of *Lysistrata*). And finally, it is worth repeating, the scholia Leidensis-Vossianus at *Lysistrata* 155 inform us, if the phrase τὰ αὐτά is to have its common idiomatic meaning, that the story in Lesches gives the same account of the Meeting as the story in Ibykos.

Ibykos is last heard of at the court of Polykrates of Samos towards the end of the third or beginning of the fourth quarter of the sixth century B.C.¹⁴ Lesches was doubtless his contemporary, perhaps somewhat older contemporary.¹⁵ There is one other testimony for the treatment of the Recovery in the Epic Cycle. It stands in Photios' resumé (ninth century after Christ) of the summary made by Proklos (whether the neoplatonist of the fifth or the grammarian of the second century after Christ)¹⁶ of the *Iliupersis* by Arktinos (the Cyclic poet of, presumably, the seventh century B.C.):¹⁷

Μενέλαος δὲ ἀνευρὼν Ἑλένην ἐπὶ τὰς ναῦς κατάγει, Δηίφοβον φονεύσας.

Menelaos killed Deiphobos, found Helen, and led her down to the ships. (Or, the Greek participles being ambiguous: . . . found Helen, killed Deiphobos, and led Helen down to the ships.¹⁸)

What "finding Helen" involved for Arktinos, one does not know; there is no evidence. It is the more astonishing to read: ". . . dans l'*Iliupersis* d'Arctinos Ulysse et Ménélas se rendaient à la maison de Déiphobe. . . . Ménélas, séduit à la vue de son épouse, lui pardonnait tout de suite."¹⁹ Actually, there is no evidence that Arktinos located so definitely the death of Deiphobos. It is from the *persis* of Demodokos at *Odyssey*, VIII, 516-518, that one hears of Odysseus and Menelaos going together to the house of Deiphobos after they had left the wooden horse. Unhappily, Demo-

¹⁴ Cf. Schmid, Stählin, *op. cit.*, I, 1, pp. 490, 492-493.

¹⁵ *Op. cit.*, p. 213 with note 4 and p. 214 with note 3.

¹⁶ Schmid favors the grammarian, *op. cit.*, p. 198 with note 5.

¹⁷ His floruit is placed in the second half of the century by Schmid, *op. cit.*, pp. 212-213.

¹⁸ The ambiguity is not resolved by other references to the Proklos account of the episode; they all omit ἀνευρὼν Ἑλένην (or an equivalent), compress their statements to the Death of Deiphobos and the Escort to the Ships,—as the passages are given by Robert in Preller, Robert, *Gr. Mythologie*, II, p. 1263, note 2.

¹⁹ Ghali, *Hélène*, p. 31.

dokos did not go into detail about the events which took place there. Nor can one know when and for what reason Menelaos forgave Helen, if indeed Arktinos represented him as having anything to forgive. What the evidence says is that he took her down to the ships.

Pictorializations of the Recovery are certainly so identified when the names of the characters are written in the picture. The certain illustrations divide into Attack pictures and Escort pictures. Both are found among the extant work of Oltos, from the last decade or two of the sixth century B.C. The Nikosthenic neck-amphora Louvre G 3 shows warrior and woman running to right.²⁰ He holds his sword in his right hand, blade slightly below horizontal, point towards the woman. With his left hand he has grasped her wrist, drawing the upper part of her body around to face him as he attempts to check her flight. She stretches her right hand towards his chin, imploring mercy. Indeed she seems in need of it. The inscriptions are reported ΜΕΝΕΙΛΟΣ and ΕΛΕΝΕ, Menelaos and Helen. The Odessa plate of Oltos gives his version of the Escort picture.²¹ The warrior strides off to left, looking back at the woman whose right wrist he holds with his left hand. "La jeune femme," writes Mme. Ghali, "avance à petits pas."²² But this appears anticipatory; the woman's feet seem motionless. The warrior carries his sword in his right hand, blade slightly above the horizontal across his corslet, point towards the woman, whether in actual threat to the woman,²³ or, better I think, by reason of the mechanics of frontality, only apparently so. Oltos has named the woman ΗΕΥΕΝΕ, Helen, and the man ΜΕΝΕΛΕ[ΟΣ], Old Attic for the later Attic Μενέλε[ως], Menelaos.²⁴ This seems to be the only Escort picture where the characters are named. It may, I suppose, be connected with Μενέλαος . . . Ἑλένην ἐπὶ τὰς ναῦς κατάγει in Photios' report of the Proklos epitome of the handling of the story in the Arktinos *Iliupersis*,²⁵ but there is surely no very good reason to claim so specific a source for the picture as Arktinos' poem. From the moment (at least) of the *Odyssey*'s account of Helen's life with Menelaos at Sparta, after Troy, the Escort to the Ships is fundamental to her story. The Oltos Attack picture, however, may fairly be taken as illustrating the scholiast on *Wasps* 714, [Μενέλαον] γάρ φασιν ὀρμήσαντα ἐπὶ τὴν Ἑλένην . . . ἡ ἱστορία παρὰ Ἰβύκῳ.²⁶ The picture, like the scholiast's language, is a condensed statement of the Ibykos

²⁰ Ghali, *Hélène*, p. 78, no. 44, pl. 49, 2; Beazley, *A.R.V.*, p. 34, no. 3.

²¹ *Hélène*, p. 103, no. 99, pl. 82, 2; *A.R.V.*, p. 35, no. 10 with Addenda.

²² *Hélène*, *loc. cit.*

²³ Mme. Ghali, *loc. cit.*, supposes so: "Il . . . la menace de son épée. . . ." In this she follows Kunze, *Arch. Schildbänder*, p. 164.

²⁴ This is clear from Mme. Ghali's illustration. In her text she nevertheless reports the warrior's name Μενελα; her last letter is certainly wrong; lambda lacks only its short oblique line.

²⁵ And Mme. Ghali, *loc. cit.*, does so.

²⁶ And so may be taken in evidence that Rutherford's proposal to emend ὀρμήσαντα to ὀργήσαντα is needless.

version of the Meeting sketched in greater detail by the scholiast on *Andromache* 630, ἄμεινον ᾠκονόμηται τοῖς περὶ Ἰβυκον· εἰς γὰρ Ἀφροδίτης ναὸν καταφεύγει ἡ Ἑλένη. . . , and pictured on Tarquinia RC 5291, a cup in the Brygos Painter's manner, which, though the characters are not named, represents so closely the language of scholiast *Wasps* 714 and scholiast *Andromache* 630 that it might well serve as a book-illustration for the Ibykos passage to which presumably both allude.²⁷ On side B of Tarquinia RC 5291 (ca. 490-480 B.C.)²⁸ Helen is in full flight, violently pursued by Menelaos, on the point of overtaking her, his sword at the height of the back-swing of its thrust. But Helen's foot is already over the stylobate of Aphrodite's temple,—one Doric column and part of the entablature are drawn, in the background the temple's great altar,—and seated inside the temple is Aphrodite herself to receive her protégée and effect the reconciliation. Such an epiphany suits the concrete, personalized style of an illustrator's narrative technique.

Menelaos and Helen are named in another picture of the Attack at this early moment in its development, Boston 13.186, a skyphos by Makron, a contemporary of the Brygos Painter.²⁹ Menelaos (Μενελεος) draws his sword as he pursues Helen (Ἑλενε), who flees to the protection of Aphrodite's outstretched arms. Priam sits beneath the handle to right, Chryseis and Chryses (presumably) stand sedately to left of the main group. All are named: Ἀφροδίτε, Πρίαμος, Κρισεῖς, Κρισεύς—conventional side-figures given names suitable to the location of the main scene of the picture. The pursuit and flight of the Attack according to Ibykos are here; the variation is the goddess alone without her temple, in the role of protecting friend—and the illustrator writes his characters' names to make his story clear.

In the report of scholiast *Andromache* 630 the pursuit and flight of the Attack according to Ibykos was followed by parleying between Menelaos and Helen (she from the sanctuary of Aphrodite's temple), love for Helen taking possession of Menelaos and causing him to drop (ἀφιέναι) his sword. (If scholiast *Wasps* 714 writes ἀποβάλλειν, "throw away," he is presumably influenced by his recollection of his author's opening scene in *Lysistrata*.) Now conversation does not easily lend itself to dramatic pictorialization. The vase-painters proceed at once to the dropping of the sword while the pursuit and flight of the Attack are in full course, and they

²⁷ Cf. Robert, *Gr. Myth.*, II, p. 1264, note: "Die Flucht zum Aphroditetempel stellt eine Trinkschale im Stil des Brygos dar. . . ." with reference to Tarquinia RC 5291. Robert had long before accepted connection between cup and scholion (*Bild und Lied* [*Philologische Untersuchungen*, V, 1881] p. 78).

²⁸ Beazley, *A.R.V.*, pp. 256-257 (" . . . extremely close to the Brygos Painter at his height, and may be by him. . . ."): I, hero leading woman. A, Theseus leaving Ariadne. B, Menelaos and Helen. (So Beazley.) Jacopi, *C.V.A.*, Tarquinia, 2, pl. 18. Ghali, *Hélène*, p. 81, no. 54, pl. 56, 2(B), and p. 116, no. 111, pl. 86, 2(I).

²⁹ Beazley, *A.R.V.*, p. 301, no. 1; Ghali, *Hélène*, p. 81, no. 53, pl. 48(B), and p. 53, no. 11, pl. 4(A). A, Paris and Helen. B, Menelaos and Helen.

not infrequently indicate the cause' ($\acute{\upsilon}\pi' \epsilon\rho\omega\tau\omicron\varsigma \acute{\alpha}\phi\acute{\iota}\eta\sigma\iota \tau\omicron \xi\acute{\iota}\phi\omicron\varsigma$) by representing Eros himself flying at Menelaos. Thus on Vatican H 525, an oinochoe of *ca.* 430-420 B.C. connected with the Eretria Painter,⁸⁰ Menelaos (Μενελεως) leaps at Helen and his sword drops from the outspread hand of his sword-arm at the height of its backward swing. To emphasize the causation, Eros is shown flying a wreath at Menelaos. Helen (Ηλενη) still in terrified flight has just reached the sanctuary of Athena's statue. Peitho (Πειθω) stands behind the statue,⁸¹ Aphrodite (Αφροδιτη) between pursuer and pursued. On a hydria in Rome (Torlonia), *ca.* 440-430 B.C., connected with the group of Polygnotos or with the Painter of the Louvre Centauromachy, the principals in the pursuit and flight are named (Μνελεος, Ηελενε); but of the rest of the cast, Apollo, Aphrodite, four women, only two are named (Απολλων, Αντιοπε).⁸² The sword is falling toward the ground; Eros is not represented.⁸³

The Oltos Attack picture is one of sixteen where "Ménélas poursuit Hélène en fuite et la menace l'épée nue à la main."⁸⁴ The earliest is Mykonos K 31092, *ca.* 550-530 B.C., the only black-figure picture in any degree reasonably classed in the group.⁸⁵ The latest need not be far from 450 B.C. In essential details of iconography seven of the sixteen pictures are quite remote from the nine others. (1) Louvre 10268 (Campana), fragment of a lip-cup by the Centaur Painter, shows a woman and a man running. His only military equipment is a sheathed sword slung from his shoulder. His dress is a short chiton, with large white ornament on its borders. With forward hand he seems to hold the wrist of the woman's back-stretched arm; his other hand appears to be on his hip. They may be running together, or perhaps dancing; the details of the known iconography of the Recovery are here absent.⁸⁶ On (2) a

⁸⁰ Beazley, *Attische Vasenmaler*, p. 430, no. 1; Rumpf, *Malerei und Zeichnung* (*Handbuch der Archäologie*, IV, 1), p. 109; Ghali, *Hélène*, pp. 90-91, no. 72, pl. 66, 1-3.

⁸¹ Presumably so in the composition of the cartoon (assuming a cartoon) the Eretria Painter's connection made use of; on the vase the handle-palmette separates Peitho from Athena's statue, though logic demands that the separator fall between Peitho and Menelaos, whose activity she disregards as she is actually posed. (Löwy, *Wiener Studien*, XXXIV, 1912, p. 283, note 5, noted that Peitho is misplaced on the vase.)

⁸² *A.R.V.*, p. 702 foot; *Hélène*, p. 89, no. 68, pl. 57, 2. Apollo's tripod rolls on the ground, knocked over by Menelaos in the impetuosity of his attack.

⁸³ The fragmentary picture on a calyx-krater once in the collection of Mrs. E. Strong, Rome, and located by Beazley in the Group of Polygnotos, shows Menelaos (Μενελεος) running, Eros flying, the outstretched arms of Aphrodite ($\text{Αφρο} - - -$); Ghali, *Hélène*, p. 95, no. 78.

⁸⁴ *Hélène*, pp. 78-83, nos. 42-57 (Type I b): no. 52 is by the Etruscan Praxias Painter (Beazley, *E.V.P.*, p. 195); the rest are Attic.

⁸⁵ *Hélène*, p. 78, no. 43, pl. 47, 1: "troisième quart du VI^e siècle." What remains of the warrior's right arm implies, as Mme. Ghali notes, his thrusting a sword at the fleeing woman; the weapon itself is lost in a break. For the identification of the characters in the two-figure composition of this simple picture other detail is lacking than the fact that pursuer is in full armor; the identification can therefore be considered no more than possible.

⁸⁶ *Hélène*, p. 78, no. 42, pl. 47, 2. Mme. Ghali is conscious of difficulty: "Il est tentant de

colander in Athens, from the Ilissos, pursuer swings sword at pursued, but, except for greaves, he is in civilian dress and he is beardless.³⁷ Civilian costume, except for his helmet, is worn by the sword-swinging pursuer on (3) a stemless cup in Warsaw, by the Karlsruhe Painter,³⁸ and by the like figure on (4) Bologna 154, a Panathenaic amphora by the Painter of the Florence Stamnoi.³⁹ On (5) London E 294 and on (6) a vase once Hamilton, both Nolans by the Oionokles Painter,⁴⁰ the pursuer's equipment, except for sword, is completely civilian. The like is true of the naked pursuer on (7) a kylix from the School of the Penthesilea Painter once in Sienna (Chigi 233),⁴¹ where pursued flees to Apollo and another (goddess or mortal) as her companions scatter. If the painter of any of these seven vases intended to represent Menelaos and Helen in Iliupersis, his narrative detail is insufficient to declare his intention. Helen, after all, is not the only woman to have been pursued, and sanctuary with Apollo or another is a commonplace of Greek religion. The seven pictures are doubtless best taken to belong with the anonymous group of pursuit-and-flight pictures which Mme. Ghali considers a "type dérivé,"⁴²—derived, that is, from the Menelaos-and-Helen pursuit-and-flight, though it would indeed be a nice problem to determine indebtedness in any particular instance.

Mme. Ghali catalogues fourteen pursuit-and-flight pictures posed at the moment of the dropping of the sword.⁴³ All are red-figure and range in date from late work of the Berlin Painter (*ca.* 470-460 B.C.)⁴⁴ to the time of the Dinos Painter (*ca.* 420-400

songer ici à Ménélas devant Hélène [an awkward description of the action of the picture]. . . . Cependant des réserves s'imposent. . . ." Beazley, *A.B.V.*, p. 189, no. 6: "warrior seizing woman (Menelaos and Helen?)." The identification of the characters seems due to Villard, *Studies D. M. Robinson*, II, p. 65, no. 7, pl. 20 b: "Ménélas poursuivant Hélène"; and p. 69, "Les scènes proprement mythologique sont en petit nombre; on ne peut guère citer que la rencontre d'Hélène et de Ménélas . . . (no. 7)." Villard's date for the fragment is *ca.* 540 B.C. or a bit later (*op. cit.*, p. 68).

³⁷ *Hélène*, p. 66, no. 22, and p. 79, no. 47, pl. 68, 1; Threpsiades, *Πρακτικά*, 1950, pp. 101-113. Mme. Ghali reports Threpsiades' date as "fin du Ve siècle" (it is actually middle of 5th century) and prefers the date *ca.* 500 B.C. suggested by D. von Bothmer comparing the cup Louvre CA 2495. For pursuer and pursued Threpsiades tentatively suggested Menelaos and Helen or Orestes and Klytemnestra (*op. cit.*, p. 106).

³⁸ *Hélène*, p. 80, no. 51; *C.V.A.*, Poland, 3, Binental Collection, III I d, pl. 2 (Poland 109), 6 b ("Ménélas et Hélène?"); *A.R.V.*, p. 513, no. 112 ("youth pursuing woman"). The Karlsruhe Painter flourished in the second quarter of the fifth century.

³⁹ *Hélène*, p. 80, no. 50, pl. 53, 1; *A.R.V.*, p. 334, no. 4 ("Melenaos and Helen"). The painter's floruit is second quarter of fifth century.

⁴⁰ *Hélène*, pp. 79-80, nos. 48-49, pls. 49, 1, and 51, 1; *A.R.V.*, p. 438, nos. 13-14. Again second quarter of fifth century for the painter's floruit.

⁴¹ *Hélène*, p. 82, no. 55, pl. 65, 1; *A.R.V.*, p. 626, no. 31.

⁴² *Hélène*, pp. 83-85, a-e.

⁴³ *Op. cit.*, pp. 86-91, nos. 58-72.

⁴⁴ *Op. cit.*, pp. 86-87, no. 58, pl. 57, 1 (Vienna 741); no. 59, pl. 59, 1-2 (Naples 126053); and no. 60, pl. 60, 1-3 (Northwick Park, Spencer-Churchill). Cf. Beazley, *Der Berliner Maler*, p. 15, for the chronology.

B.C.).⁴⁵ In two the characters are named (*supra*, p. 54). Pursuit and flight, the falling sword are constant elements;⁴⁶ also the pursuer's helmet and shield. These are perhaps sufficient to establish the *mise-en-scène*, Menelaos in Iliupersis, even when corslet and greaves are omitted and the pursuer's body clothed in short chiton or represented quite naked.⁴⁷

In connection with this group of pictures Mme. Ghali elaborates an hypothesis of influence of the pictorial arts upon literature advanced by E. Löwy in 1912.⁴⁸ Mme. Ghali writes: ". . . le roi [Menelaos], à sa vue [Helen's] laissait tomber l'épée. L'avait-elle déjà séduit en dévoilant son sein, comme le laisserait croire la version des scholiastes [a misinterpretation which Löwy did not make; *supra*, p. 50, note 12]. . . . Fort heureusement, les témoignages artistiques peuvent nous aider ici à rétablir la tradition littéraire: il semble bien que l'invention d'Hélène dénudant sa poitrine soit plus récente que Leschès ou même qu'Ibycus. Ainsi que nous le verrons plus tard, son origine fut peut-être picturale; le succès qu'elle obtint expliquerait qu'elle fut ensuite reprise par Aristophane et Euripide."⁴⁹ Later: "L'effet de sa vue sur Ménélas est matérialisé par le geste de la main qui laisse tomber l'épée. Peu à peu, pour bien mettre l'accent sur la beauté irrésistible, les peintres montrent Hélène dévoilant son sein [for "les peintres" Mme. Ghali can cite only Vatican H 525 by the Eretria Painter's connection, described *supra*, p. 54 and note 30]. . . . On peut essayer de voir dans le geste d'Hélène une innovation des artistes eux-mêmes, qui auraient influencé les auteurs . . . il se pourrait que l'on doive chercher dans la grande peinture, ou à la rigueur dans la sculpture, l'origine de ce détail piquant de la rencontre des époux. On a même songé à expliquer que . . . l'artiste a été obligé de traiter le vêtement . . . de manière à découvrir légèrement la poitrine, et ce traitement aurait inspiré aux poètes comme Euripide et Aristophane l'idée d'y voir une

⁴⁵ *Op. cit.*, p. 90, no. 71, pl. 64, 1-2 (Syracuse 24121), a vase in the manner of the Dinos Painter (Beazley, *A.R.V.*, p. 793, no. 14, and p. 789, topmost no. 1, where the vase is held to be perhaps comparable to pieces which display qualities both of the Kleophon Painter and of the Dinos Painter).

⁴⁶ It seems possible from the pose of the sword-hand of the pursuer on the stamnos fragment at Northwick Park (*supra*, note 44) that the Berlin Painter intended to represent him thrusting his sword and then neglected to paint the weapon. If so, the stamnos should be classed among representations of the earlier moment in the Pursuit and Flight. The falling sword of the pursuer on Los Angeles A 5933.51.108 was never painted (*Hélène*, p. 88, no. 65; *Hesperia*, XXIV, 1955, p. 23 towards middle of right column; for this curious vase see also "A Greek Vase and Restorer's Work," *Los Angeles County Museum, Bulletin of the Art Division*, IX, 1957, no. 3).

⁴⁷ Certainly naked on Vatican H 525 (characters named) and apparently so on Louvre G 424 (*Hélène*, p. 88, no. 66, pl. 63, 3; but cf. *C.V.A.*, III I d, pl. 23, 4-6, text: ". . . corps de Ménélas endommagé et réparé").

⁴⁸ *Wiener Studien*, XXXIV, 1912, pp. 282-287.

⁴⁹ *Hélène*, p. 42.

tentative de séduction de la part d'Hélène ⁵⁰ . . . un des cas plus rares où la littérature est directement influencée par l'art. . . ." ⁵¹

This hypothesis of influences is based upon and complicated by misconceptions. The Helen of Vatican H 525 is in fact represented neither "dénudant" nor "dévoilant son sein." She is in considerable disarray. The movement of her terrified flight has tumbled her hair, opened the skirt of her peplos to show most of her right leg and, apparently, a part of its bodice to show the side of her right breast uncovered by a gap in the heavy folds of the garment above her waist. But all this is hardly more than the painter's pleasant scheme for indicating the violence and terror of Helen's flight.⁵² Clearly the painter intends nothing of the nature of Lampito's τᾶς Ἑλένας τὰ μᾶλ' αὖ γυμνᾶς παρανιδῶν at *Lysistrata* 155-156, however good the gloss the Helen on Vatican H 525 provides for the poet's παρανιδῶν.⁵³ The phenomenon was doubtless an ordinary enough occurrence in places and periods where the peplos was fashionable.⁵⁴ What the Eretria Painter's connection did intend as motivation for the dropping of the sword he clearly showed by painting Aphrodite between Menelaos and Helen, and Eros flying a wreath at Menelaos. Lampito's quip needs no source beyond her countrywomen's fashion of dress and the immediate context of her remark. Her τᾶς Ἑλένας . . . γυμνᾶς ⁵⁵ counterpoints *Lysistrata's* γυμναί, her τὰ μᾶλ' αὖ παρανιδῶν *Lysistrata's* εἰ . . . παρίοιμεν δέλτα παρατετιλμέναι, her ἐξέβαλ' οἰῶ τὸ ξίφος *Lysistrata's* σπονδὰς ποιήσαιντ' ἂν ταχέως, εὖ οἶδ' ὅτι.⁵⁶ The work which does

⁵⁰ This sentence somewhat misrepresents Löwy's interpretation, which is both more illogical and more realistic (see note 54).

⁵¹ *Op. cit.*, pp. 97-98; the hypothesis is repeated on pp. 326-327.

⁵² This was accurately noted by Löwy, *op. cit.*, p. 287.

⁵³ The concord was the irresistible inducement for Löwy to construct his theory of an hypothetical Polygnotan painting for the source of Aristophanes' verses: "Eine der Vase gleichende Zeichnung, also das ihr zugrunde liegende Gemälde, ist des Aristophanes Quelle" (*op. cit.*, pp. 286-287 with p. 283).

⁵⁴ Löwy, *op. cit.*, p. 287: "Das Gewandmotiv der Helena . . . war dem Künstler sicher von der Erinnerung an ihre Spartanische Heimat eingegeben. . . ." And the disarray of the garment a straightforward indication of the terror and violence of Helen's flight: "Ein Teil des athenischen Publikums freilich fasste es anders; und ein Niederschlag des Stadtwitzes, der diese Gestalt kommentierte, ist es, was uns bei Aristophanes . . . vorliegt." However reasonable within itself this last sentence may be, it plays hob with the logic of Löwy's construction: The Aristophanes passage and Vatican H 525 provide him the evidence for his hypothesis of a Polygnotan painting (made no less hypothetical by invoking also the ruined metopes, Parthenon North XXIV and XXV) as a source for the Aristophanes passage which he then interprets not in relation to the source he has argued but in relation to a ribald witticism (hypothetical) of Athenian sophisticates.

⁵⁵ Löwy, *op. cit.*, p. 283, note 3: "Die Synekdoche bedarf keiner Belege." The synecdoche is secondary.

⁵⁶ Wilamowitz' note *ad loc.* is an unnecessarily literary excursion into Quellenforschung: "Was Lampito sagt, ist, dass Menelaos irgendwie die Brüste der nackten Helene Verstohlen sah. Sie kennt die Geschichte also nicht richtig; bekanntlich hat Helene in dem späteren Epos ihn durch den Anblick ihrer Schönheit entwaffnet, ganz bewusst, aber ohne Aufbietung ihrer körperlichen Reize

reflect something of the Aristophanes passage is Villa Giulia 1197, a calyx-krater of the early fourth century, with an Iliupersis by the Etruscan Nazzano Painter. Menelaos drops his sword; Helen is half way through her stripper's routine, her aim accomplished with little more than formal help from the somewhat pudgy and matronly madam who stands in Aphrodite's place.⁵⁷ The Nazzano Painter's picture is bar-room art—I do not suggest that it is directly inspired by the *Lysistrata* passage, merely that it inhabits the same quarter of the town. Naked Helens, or partially naked, recur (if the woman is rightly so identified) in fourth-century Italiote and Etruscan: the somewhat sadistic composition on a lekythos in Frankfurt where Eros interrupts the sword of the man who has forced the woman to her knees, his left hand entwined in her hair;⁵⁸ the picture on a cup in Chiusi where the man, equipped with sword, shield, and spear, lifts back the garment of a woman already all but completely naked, who has sought refuge (it seems) on a beldam's lap.⁵⁹ Elements of the pose of warrior and woman on the Frankfurt lekythos are found also on fourth-century Etruscan mirrors,⁶⁰ one of which obligingly gives Menelaos his name.⁶¹ These Italian documents stand at the beginning of a new cycle in the iconography of the legend,⁶²—these and not the Dwarf Painter's Nolan London E 336 (*infra*, note 66), as Mme. Ghali has it.⁶³ What is fatal to Mme. Ghali's hypothesis of art influencing literature and to Löwy's is that they have found no ribald picture of a naked Helen in a Recovery scene earlier in date than the production of *Lysistrata* (411 B.C.).⁶⁴

Mme. Ghali has catalogued a group of pictures which show pursuer carrying a spear.⁶⁵ One, the Dwarf Painter's Nolan London E 336,⁶⁶ uses for pursuit and flight the scheme of composition used in picturing Ajax's attack upon Cassandra,⁶⁷ except

... Aristophanes lässt die Spartanerin so halb unterrichtet sein wie den Dionysos über die Perser des Aischylos, Frösche 1028" (Wilamowitz, *Aristophanes Lysistrate*, 1927, pp. 132-133).

⁵⁷ Ghali, *Hélène*, p. 192, no. 164, pl. 73, 2-4; Beazley, *E.V.P.*, pp. 6-7, pl. 23; *C.V.A.*, 2, IV B r, pl. 10, 2.

⁵⁸ Ghali, *op. cit.*, p. 190, no. 160, pl. 71, 2-4.

⁵⁹ *Op. cit.*, p. 192, no. 163, pl. 72, 1.

⁶⁰ *Op. cit.*, pp. 270-271.

⁶¹ London 627 (Walters), Ghali, *op. cit.*, p. 270, no. 225, pl. 94, 1.

⁶² See for example, the Pompeii murals, Ghali, *op. cit.*, p. 247, nos. 201-202, where warrior's hand is entwined in the hair of the half-naked woman.

⁶³ *Hélène*, p. 96, no. 82, and p. 327.

⁶⁴ Löwy, conscious of the difficulty, put himself to some trouble to explain away the absence of "das Sinnliche" in what he conceived to be the pictorial source (*op. cit.*, pp. 283-284, 287).

⁶⁵ *Hélène*, pp. 95-97.

⁶⁶ *C.V.A.*, 5, pl. 65, 2 a; Beazley, *A.R.V.*, p. 651, no. 4. The painter's floruit is about 450-425 B.C.

⁶⁷ For example: (1) Bologna 268, a volute-krater by the Niobid Painter (Beazley, *A.R.V.*, p. 418, no. 1, and *A.V.*, p. 337, no. 1; Webster, *Der Niobidenmaler*, pl. 6 b). Juliette Davreux, *La légende de la prophétesse Cassandra*, 1942, p. 159, no. 92, fig. 54, and *ibid.*, note 1: "J. Hoppin attribue ce cratère au peintre des Niobides." This note has replaced the proper note 2 on p. 158,

that on London E 336 the woman seeks asylum at Apollo's statue rather than Athena's, Cassandra's canonical protector. This has caused several before Mme. Ghali to suggest that pursuer and pursued were intended for Menelaos and Helen,⁶⁸ and others to entertain at least the possibility that they were so intended.⁶⁹ But if Helen can find refuge with Aphrodite, with Athena, with Apollo, or some combination of these,—as she does,—the Dwarf Painter may perhaps be allowed to send a Cassandra to Apollo, whether because she was Apollo's priestess (Schefold's suggestion) or because it seemed to him suitable enough for a Trojan princess to seek asylum with Troy's friend among the gods.⁷⁰ In this matter, it seems to me, the composition outweighs the god.

On several other vases of this division of the pursuit-and-flight group the spear-carrying warrior is specifically identified by Mme. Ghali as Menelaos chasing a fleeing Helen. (1) New York 41.162.20, a stamnos by the Deepdene Painter,⁷¹ has more the appearance of an escort than of pursuit and flight.⁷² Whichever the action, there is no detail in the composition of the picture to individualize the characters (but "Menelaos and Helen," Beazley, *loc. cit.*). (2) Louvre G 482, a volute-

and for the rest is inadequate if not inaccurate. Hoppin himself noted, *Handbook Attic R.-F. Vases*, II, p. 236, no. 5, that Bologna 268 is no. 1 in the Niobid Painter's list published by Beazley, *V.A.*, p. 147, and had already been associated with other vases of the list by Furtwängler in *Gr. Vasenmalerei*, I, p. 133. (2) Louvre G 458, a cup by the Codrus Painter (*A.R.V.*, p. 740, no. 10, and *A.V.*, p. 425, no. 3; *Enc. phot.*, III, pl. 28, b). Inscriptions: ΑΙΑΞ, ΚΑΞΞΑΝΔΡΑ (see the drawing in Roscher, *Lexikon d. Gr. u. Röm. Mythologie*, II, col. 982, reported after *Annali*, 1877, pl. N; cf. Daremberg et Saglio, *Dictionnaire des Antiquités*, p. 936, fig. 1208). Davreux, *op. cit.*, p. 158, no. 91, fig. 55: "Coupe attique à fond blanc [cf. Preller, Robert, *Gr. Myth.*, II, 3, p. 1266, note 6: "... einer Schale mit weissem Grund, *Ann. d. Inst.*, XLIX 1877 tav. d'agg. N"] ... du début du Ve siècle av. J. C." The cup is red-figure, not white-ground. The date is third quarter, not beginning of fifth century. (3) London E 470, a volute-krater connected with the Geneva Painter (Cecil Smith, *Cat. Vases in B.M.*, III, p. 290; Beazley, *A.R.V.*, p. 430). Davreux, *op. cit.*, p. 163, no. 98: "Première moitié du IVe siècle. ... Le céramiste Italiote. ..." The date is third quarter of fifth century; the vase is Attic.

⁶⁸ F. Eichler, *Jahreshefte*, XIX, 1919, p. 96, note 157; H. B. Walters, *C.V.A.*, London, 5, 1930, text to pl. 65, 2; Beazley, *A.R.V.*, p. 651, no. 4.

⁶⁹ Cecil Smith, *Cat. Vases in B.M.*, III, 1896, p. 230; K. Schefold, *Jahrb.*, LII, 1937, p. 44; G. M. A. Richter, *Kouroi*, 1942, p. 3.

⁷⁰ For Apollo and Troy see Nilsson, *Gesch. d. Gr. Religion*, I, 2nd ed., 1955, pp. 559-560; on asylum, *op. cit.*, pp. 77-78.

⁷¹ Ghali, *Hélène*, p. 95, no. 79, pl. 69; Gallatin in *C.V.A.*, Hoppin and Gallatin, III I c, pl. 14 (U.S.A. 34), 3; Beazley, *A.R.V.*, p. 326, no. 8. The date is second quarter of fifth century.

⁷² Cf. Gallatin, *loc. cit.*: A, warrior arming (warrior, woman, old man); B, warrior departing (warrior, woman, old man). Gallatin's interpretation of B: "The same three figures ... as on A ... the warrior walks with rapid stride ... before him ... striding to r. with head and shoulders turned back to l., the young woman. ... Both her hands are raised as she drapes a scarf about her shoulders. ... On the l. the old man ... stands. ..." On this interpretation, the woman accompanies, for whatever interval, the departing warrior.

krater connected with the Geneva Painter,⁷³ shows a vigorous pursuit. If one is to claim the painter intended Menelaos and Helen, the argument must depend upon identifying as Aphrodite the woman between pursuer and pursued, and there is in fact nothing to characterize her as other than one of the several alarmed companions of the pursued who appear in the picture (Beazley, *loc. cit.*, again "Menelaos and Helen"). Even the suggestion of the canonical three-figure composition, pursuer—intervener—pursued, fails on (3) the nestoris in Naples⁷⁴ with warrior pursuing woman and companions in presence of king.⁷⁵ And in the pursuit and flight on (4) the Berlin Painter's late Nolan London E 310 the warrior is a youth.⁷⁶ It is perhaps better to leave unidentified the subject of the pictures of all five of this group.

In the black-figure of the generation or two preceding Oltos two types are recognized in pictorializations of the Recovery: (a) the climax of the Meeting, where Menelaos with drawn sword confronts an undisturbed Helen; (b) an Escort, where Menelaos again with drawn sword is leading Helen off presumably to the Greek ships. The characters are named in no black-figure picture, only in the red-figure Escort on the Odessa plate by Oltos (*supra*, p. 52 and note 21). The sword drawn in threat against the woman (it is maintained) establishes the classification of anonymous pictures and the connection between the two types. The argument for this interpretation was stated in considerable detail by A. Schneider, and again by Kunze whom Mme. Ghali followed, though less cautious than he in claiming connection between pictures and poets.⁷⁷ It has not seemed to Beazley that the weapon carried by the warrior in Escort pictures is particularly significant for the interpretation: "Menelaos and Helen(?)" apropos of London B 244, by the Antimenes Painter, where escorting warriors carry spears, and citing with approval Furtwängler's Menelaos and Helen for Berlin 1842,⁷⁸ again by the Antimenes Painter, where escorting warrior carries sword — — — ". . . Helen recovered by Menelaos . . . I adopt . . . provisionally: it is at least sometimes correct."⁷⁹ The interpretation "Recovery of

⁷³ Ghali, *Hélène*, p. 96, no. 81, pl. 70; Pottier, *C.V.A.*, 5, III I d, pl. 30, 1-3; Beazley, *A.R.V.*, p. 430. Date second quarter of fifth century.

⁷⁴ Ghali, *op. cit.*, p. 96, no. 82 bis, pl. 71, 1. The date is doubtless third quarter of fifth century.

⁷⁵ The "king" Mme. Ghali describes as ". . . un jeune homme contemple la scène en appuyant une lance sur le sol." The "lance" seems to be staff or scepter with fleur-de-lys over ball for finial; the man, though obscured by the curve of the pot, does not seem young.

⁷⁶ *C.V.A.*, 5, III I c, pl. 56, 1 a. Beazley, *A.R.V.*, p. 136, no. 69 ("warrior pursuing w."). Mme. Ghali, *Hélène*, p. 96 at foot, puts London E 310 at the head of her list of the "Type dérivé," but categorically identifies ". . . Ménélas . . . Hélène sans doute. . . ." This compensates her treatment of the Naples nestoris, last of the group where "Ménélas armé d'une lance poursuit Hélène," but its characters anonymous in her description, "Un guerrier . . . poursuit une jeune femme. . . ."

⁷⁷ A. Schneider, *Der troische Sagenkreis*, 1886, pp. 106-109 (Escort pictures) and 181-183 (The Meeting); Kunze, *Arch. Schildbänder*, pp. 163-165 with earlier literature in note 5 on p. 163; Ghali, *Hélène*, pp. 71-77, 99-105.

⁷⁸ *Beschreibung*, I, p. 336.

⁷⁹ *J.H.S.*, XLVII, 1927, p. 78, p. 82, no. 2, p. 83, no. 14.

Helen" is retained for both pictures in Beazley's most recent statement.⁸⁰ The proposition that the warrior's sword is drawn in threat against the woman, whether in the Meeting or in the Escort, is dependent upon interpretation all the more uncertain for being involved with the non-illusionistic formulae of black-figure drawing.⁸¹

The best document for the Meeting is the Iliupersis by Lydos on the amphora Berlin 1685 (ca. 550 B.C.),⁸² where warrior and woman share the picture with a Death

⁸⁰ *A.B.V.*, p. 271, no. 74, and p. 273, no. 110.

⁸¹ Cf. Robert on the Escort pictures London B 244 (*Hélène*, pl. 77), Berlin 1842 (*op. cit.*, pl. 80, 1), Gerhard 72 (*op. cit.*, pl. 78, 3), and Gerhard 171 (*op. cit.*, pl. 78, 2): "... der Mann hat das Schwert nicht gezückt, um die Frau zu bedrohen, sondern um sich und sie zu schützen..." (*Bild und Lied*, pp. 56-57). This seems to me right (further, *infra*, note 119), except of course that the warriors on London B 244 carry spears, not drawn swords. It does not seem to me right to argue from this interpretation, as Robert does, that the pictures therefore represent the abduction of Helen by Paris and Aeneas. Mme. Ghali repeats the argument for Paris and Helen (*Hélène*, p. 51), but changes the list of pictures connected with it. These are certain of the Olympia shield-reliefs, the amphora Munich 1383 (Amasis Painter), the neck-amphorae Florence C 3777 and Louvre C 10236 (ca. 540-520 B.C.), and the r.f. lekythos Berlin 30835 (Painter of the Yale Lekythos). The last is a warrior's departure ("warrior leaving w.": Beazley, *A.B.V.*, p. 444, no. 25). The rest are anonymous Escorts. Florence C 3777 has an escort on both sides, woman and two warriors. The argument that the escort proceeding left (side B) is Menelaos and Helen (Ghali, *op. cit.*, p. 51, pl. 76, 1), and therefore the similar escort on side A likely to be Paris and Helen (already Schneider, *Der troische Sagenkreis*, pp. 107-108), falls when one realizes that the position of the first warrior's sword on B is doubtless like that of his congener's on A with escort towards right (Ghali, *op. cit.*, pl. 3, 1), the fact that on B it points back towards the woman due to the reversal of the direction of the action rather than to any intention on the part of the painter to represent it as a threat to the woman. The truth is one would not expect Paris and Aeneas, on leaving Sparta, to be fully armed as if for battle, and in fact they are not so represented in the certain Abduction pictures on Makron's Boston 13.185 and Berlin 2291 (Ghali, *Hélène*, pp. 53-54, nos. 11-12, pl. 4 and pl. 3, 3). (I do not know why Kunze lists Florence C 3777 among pictures "auf denen Menelaos Helena wie bei Oltos am Handgelenk führt" [*Arch. Schilddb.*, p. 165 and note 1]; on side A neither warrior touches the woman, on side B the first warrior holds an edge of her himation.) Kunze's arguments (*Arch. Schildbänder*, p. 170) for considering the Olympia relief-pictures an anonymous Bride's Abduction seem to me still valid. But I cannot share his confidence, and most recently Mme. Karouzou's, that the characters in the Amasis Painter's picture (Munich 1383) are to be identified as Menelaos and Helen (*Arch. Schildbänder*, p. 164). Indeed, Mme. Karouzou's description of the picture (*The Amasis Painter*, p. 5), "... warrior, with sword drawn from its sheath, gazes threateningly at a woman whom he is about to strike. . . . Menelaos preparing to take his revenge on Helen. . . ." no more reflects the fact of the detail of the picture's composition than her "According to the story related in the *Little Iliad*, Helen will unveil her beauty . . ." reflects the fact of the evidence for the treatment of the story in that poem (*supra*, p. 49). However, cf. Beazley, *A.B.V.*, p. 150, no. 7: "Recovery of Helen"; and von Massow, *Ath. Mitt.*, XLI, 1916, p. 60: "... fasst Menelaos seine Gattin nicht an, sondern sieht sich nur drohend um" (Haspels, *B.C.H.*, LIV, 1930, p. 437, seems to propose the transfer of the vase from one of von Massow's groups [*ibid.*, p. 438] to another).

⁸² Or a bit later. Beazley, *A.B.V.*, p. 109, no. 24, reporting Bloesch's opinion that the potter work is by Amasis. Rumpf, *Sakonides*, p. 27, no. 67, and p. 20, comparing the corpse in the Berlin picture to a giant in the Siphnian Treasury frieze at Delphi (ca. 530-525 B.C.) would presumably place the vase still later. But cf. Beazley, *D.A.B.*, p. 48: Lydos' "middle or later period, the years

of Priam with which clearly they have nothing to do. Kunze writes of the pair: "Menelaos tritt mit gezücktem Schwert der Ungetreuen entgegen, die, der Wirkung ihrer Schönheit gewiss, ruhig vor ihm steht."⁸³ And Mme. Ghali classes warrior and woman in her group with "Ménélas seul face à Hélène, l'attirant d'une main par un pan de l'himation, et la menaçant de l'autre de son épée dégainée."⁸⁴ Now the logical implications of this position, that the picture displays a Threatening of Helen, immediately drive one to the forthright interpretation Attack upon Helen, as Schneider realized and expressed very well: "Helena sucht nicht zu fliehen. . . . Eine Bedrohung ist unnöthig—also will er sie tödten. Allein, dass er dies nicht thun wird, zeigt die Handbewegung der Helena, sie hebt, ihres Erfolges sicher, den Schleier."⁸⁵ It may, I suppose, be the fact that Lydos imagined himself painting warrior murderously attacking woman; nevertheless, his intention in thus posing the pair, it seems to me, can better be interpreted otherwise. In doing so, I take for talisman Schneider's own phrase: "Natürlich kann hier alles nur hypothetisch ausgesprochen werden. . . ."

The warrior's sword is in his right hand, lifted with blade slanting back over his right shoulder.⁸⁶ The woman's himation is draped, veil-like, over her head. She has grasped an edge of it with her right hand, the warrior has taken hold of the same edge with his left hand placed just above her right, and both together, it seems, have joined in drawing open the himation clearly to reveal the identity of the wearer. Lydos' draughtsmanship was not so primitive that he would have been compelled to indicate hostility by the simple device of an unsheathed sword thus held in his warrior's hand. If naked sword is carried ready for quick use, it is perhaps because Lydos knew that the capture and sacking of a city was dangerous business not soon over:

Quondam etiam victis redit in praecordia virtus
victoresque cadunt Danaï, crudelis ubique
luctus, ubique pavor et plurima mortis imago.⁸⁷

Warrior and woman are in fact posed, it seems clear, in a Recognition scene. If they are to be identified as Menelaos and Helen, the argument must depend upon their

around the middle of the sixth century." Illustrations of Berlin 1685: Pfuhl, *Malerei und Zeichnung*, III, fig. 241; Rumpf, *op. cit.*, pl. 16 bottom.

⁸³ *Arch. Schildbänder*, p. 164 with note 1.

⁸⁴ *Hélène*, p. 77; cf. the section-heading in the Catalogue p. 71, associating the picture with the version of the Recovery she considers Lesches'.

⁸⁵ *Der troische Sagenkreis*, p. 182 and note 1, A; cf. von Massow, *Ath. Mitt.*, XLI, 1916, p. 65: ". . . die Bedrohung Helenas. . . ."

⁸⁶ Mme. Ghali says, wrongly, ". . . le guerrier pointe son épée obliquement vers la tête de sa femme" (*op. cit.*, p. 72, no. 26).

⁸⁷ *Aeneid*, II, 367-369. Cf. Robert, *supra*, note 81.

presence in an Iliupersis taken in connection with the report of the Arktinos version of the Recovery, the ἀνέυρεσις Ἑλένης pictured at the moment of the ἀναγνώρισις (further, see *infra*, p. 64).⁸⁸

Another example of the Recognition and an example of its sequel, the Greeting of Menelaos, may perhaps be identified in rather poorly preserved red-figure pictures. The Greeting is the older. Acropolis 212, a fragmentary kylix of about 500 B.C. or a little earlier,⁸⁹ has an elaborate Iliupersis: parts of a Rape of Cassandra, a Death of Priam, fights, corpses. In the midst of all this are two figures, their lower parts alone preserved: a warrior carrying shield and spear, point down, walking towards a woman whose arms are raised, outstretched, it seems, in friendly greeting rather than the terrified appeal which Mme. Ghali's classification would require. The final letter of the woman's name is preserved: — — ε, presumably [Ἑλεν]ε though not certainly so, and Langlotz' query of the identification as Menelaos and Helen must be noted.⁹⁰ The fragments of the Iliupersis on Ferrara T 936, a calyx-krater by the Niobid Painter,⁹¹ in addition to a Death of Priam and an Aeneas and Anchises, show a scene

⁸⁸ If the pair are indeed Menelaos and Helen, it may well be true that the corpse partly visible behind Helen, as Robert suggested (*Bild und Lied*, pp. 60-61, and *Arch. Hermeneutik*, pp. 221-222), is that of Deiphobos: Μενέλαος . . . Διήφοβον φονεύσας.

⁸⁹ Langlotz in Graef and Langlotz, *Die ant. Vasen d. Akropolis*, II, p. 17, no. 212, pl. 10. Mme. Ghali, *Hélène*, p. 75, no. 39, cites Davreux, *Cassandre*, p. 130 (170 is correct), no. 112, and reports ". . . coupe . . . proche d'Épictète (des environs de 500). . . ." Mlle. Davreux, *loc. cit.*, writes "Style d'Épictète de la dernière période" (which would mean ca. 480 B.C.: cf. Rumpf, *Malerei und Zeichnung*, p. 64); cites Hoppin, *Handbook R.-F. Vases*, II, p. 459, where no. 1 is Acropolis frag. of an Ajax and Cassandra by the Tyszkiewicz Painter (actually Acropolis 812); cites also Beazley, *V.A.*, p. 55, no. 25, thus garbling items in Hoppin's bibliography and should have cited instead Beazley, *A.J.A.*, XX, 1916, p. 152, no. 26 (not no. 25, an error Mlle. Davreux shares with Hoppin), the same Acropolis 812 by the Tyszkiewicz Painter (Langlotz, *op. cit.*, II, pl. 73; Beazley, *A.V.*, p. 116, no. 34, and *A.R.V.*, p. 188, no. 60) which, so far as I can see, does not appear in Mlle. Davreux's lists of the scene (nor, apparently, does Acropolis 355, compared to work of the Stieglitz Painter, with Ajax and Cassandra in an Iliupersis: Langlotz, pl. 26; *A.R.V.*, p. 546, no. 1 bottom). But part of Mlle. Davreux's bibliography, *loc. cit.*, does concern Acropolis 212, and it is apparently from the note by Richards in *J.H.S.*, XIV, 1894, pp. 186-191,—which she cites,—that the name of Epiktetos came to be connected with Acropolis 212, for Richards there wrote (p. 190): "As to the style of the vase [i.e., Acropolis 212], no doubt Hartwig's estimate of it is correct, that it is a work of the school of Epiktetos." I do not find Acropolis 212 in *A.R.V.*

⁹⁰ Mme. Ghali's view of the scene was explicitly stated by Richards, *op. cit.*, p. 188: ". . . the woman is supplicating mercy from one who advances with hostile intent." But there is in fact nothing in the preserved parts of the woman to indicate supplication and nothing about the man to show hostile intent. Richards does not doubt that Helen and Menelaos correctly identifies woman and warrior and, further, Deiphobos the dead warrior behind the pair (p. 189) and Odysseus Menelaos' follower whose foot alone was known to Richards. Deiphobos is not impossible, though several fallen warriors are in the composition. Richard's Odysseus in the event turned out to be a Phrygian bowman (see Langlotz, pl. 10).

⁹¹ Ghali, *Hélène*, p. 94, no. 76, pl. 68, 4; Beazley, *A.R.V.*, p. 419, no. 16; Aurigemma, *Spina*², p. 235.

with woman facing right towards a figure whose hand and forearm alone remain, outstretched towards the woman. Between the two, also looking to right, stands Apollo. The woman wears chiton and, drawn over her head, a himation which she has now thrown open, a hand on each edge of the garment. The gesture seems designed plainly to reveal her identity to the person she faces. That she is Helen is probable enough, and Menelaos the person to whom hand and outstretched arm belong.⁹² The moment pictured is the same as that chosen by Lydos on Berlin 1685, but here Helen alone throws back her cloak, there Helen and Menelaos together. Acropolis 212, which stands in time between Berlin 1685 and Ferrara T 936, poses the next moment in the development of the action, Helen's arms outstretched in welcome. To see hostility in any of these pictures is to see, I think, what they do not show.

The Attack upon Helen is claimed for other black-figure pictures besides Berlin 1685. The characters are woman (in Recognition pose) and warrior, or generally two warriors; often there are side-figures, more or less meaningless space-fillers. One element of composition is shared by all members of the group: woman and one warrior face each other. This element marks out the group from other woman-and-warriors compositions customarily (if not always) interpreted as Escorts, and associates it (so the claim goes) with warrior and woman in Iliupersis on Berlin 1685. I have argued that the pair on that vase represent not an Attack, but a Recognition. It seems to me reasonable to argue that the pair, or trio, on these represent neither an Attack nor a Recognition, but one or another of the early stages of an Escort.

The earliest stage may be taken to appear in the picture on Manchester Aa 45 (*ca.* 540 B.C.), an amphora by the Towry Whyte Painter.⁹³ The woman faces left in the Recognition pose of Berlin 1685. The first warrior stands before her and reaches out across her with his left hand to grasp her left forearm at elbow. On the right the second warrior stands facing the pair. Of first warrior and woman Mme. Ghali writes: "De la main droite, il la menace de l'épée obliquement dirigée vers le haut." She does not comment on his skillless swordsmanship in interposing his own left arm between the blade of his sword and the person against whom his sword is supposedly raised. One can readily believe that the first warrior's hand, as action continues, will come down the woman's forearm and he will turn, sword in his right hand ready against possible attack, and all three will move off towards the left.

On Vatican 358, a neck-amphora by the Towry Whyte Painter, the woman is

⁹² The action is located at Apollo's sanctuary: the god himself, his statue on a Doric column, an altar (these last two on Aurigemma's report; they are not visible in the detail photograph published by Mme. Ghali). Mme. Ghali's "à l'intérieur du temple" is a mistranslation of Aurigemma's "innanzi al tempio."

⁹³ Ghali, *op. cit.*, p. 74, no. 33, pl. 45, 2; Beazley, *A.B.V.*, p. 142, no. 4, the painter's work "near Group E."

turned towards right.⁹⁴ The first warrior stands facing her. His sword hand is concealed behind his own body; the tip of his sword and his other hand and forearm are concealed behind the outstretched edge of the woman's himation.⁹⁵ When Mme. Ghali writes "... Hélène ... menacée par Ménélas," she ignores the complete absence of hostility in the position at which the sword is carried, pointing off towards the field behind the woman. Logic and position of scabbard indicate that the view of the first warrior's corslet presented is of the back, facing, in spite of pectoral scrolls characteristic of a corslet's front, consequently that sword-arm is the right, the arm extended behind the woman the left, and sword is held across front of corslet in a reasonable position for defence. One may believe the narrative intent of the painter indicated by the second warrior, posed behind the woman and stepping out towards right: presumably the first warrior will now turn and start right, the woman following after.

Much the same pose of woman and warriors occurs on a neck-amphora (*ca.* 520-510 B.C.) once in the Hasselmann collection,⁹⁶ except that the second warrior stands (facing right) and the first is represented in a step to left, towards the woman. "L'imprécision de la reproduction empêche de savoir s'il tient une épée dans la main gauche" misses the mark: the hand is his right and, while the reproduction is sufficiently bad to make one unsure of recognizing the upper end of a sword blade behind woman and warrior, the position of visible parts of warrior's right arm suggests that he does in fact carry a sword across the front of his corslet. The pose here, as on Vatican 358, is most inappropriate to suggest that sword threatens woman. It may be that first warrior is posed in his final step towards the woman, a moment before his position on Vatican 358, will now bring his feet together, turn, and go off to right with his companions.

The next stage in the development of action in the Escort,—both warriors moving, the woman still standing,—appears on Vatican 350, Baltimore 48.16, London B 245. The first two pictures, one by the Painter of the Vatican Mourner (*ca.* 540 B.C.),⁹⁷ the other comparable to that painter's work,⁹⁸ are not exact replicas, but they are close. The woman stands turned to left. Facing her, the first warrior steps out to right, his sword horizontal, point forward, in his right hand, and his left hand

⁹⁴ Ghali, *op. cit.*, p. 73, no. 31, pl. 43, 1: "... Hélène, debout vers la gauche. ..." is an error. Kunze, *Arch. Schilddänder*, p. 164, note 1, no. 6: the Threatening of Helen. Miss Haspels, *B.C.H.*, LIV, 1930, p. 438, classed it among Escort pictures. For the attribution: Beazley, *A.B.V.*, p. 142, no. 7.

⁹⁵ Or so it seems; yet Albizzati, *Vasi del Vaticano*, p. 144, claims "... il re ... tiene con la s. la moglie. ..."

⁹⁶ Ghali, *op. cit.*, p. 75, no. 37, pl. 46, 2: "... Hélène est debout vers la gauche. ..." is an error; she faces right. Beazley, *A.B.V.*, p. 588 foot: "resembles" neck-amphorae by the Painter of Toronto 313.

⁹⁷ Vatican 350: Beazley, *A.B.V.*, p. 140, no. 1; Ghali, *Hélène*, p. 72, no. 28, pl. 43, 2.

⁹⁸ Baltimore 46.16: Beazley, *A.B.V.*, p. 140 foot, no. 1; Ghali, *op. cit.*, p. 73, no. 29, pl. 43 bis, 1.

grasping the lower part of the edge of her himation held forward by her right hand. To right of the pair, the second warrior strides right, looking back at them. It is easy to suppose, with Mme. Ghali, with Kunze, with Beazley, and with Schneider, that in these pictures the first warrior threatens the woman.⁹⁹ The forward inclination of his body in motion and consequently the forward position of his sword lend verisimilitude to the interpretation. But the first warrior's hand is unnaturally low on the edge of the woman's himation to go with a threatening gesture of the sword in his right; one may interpret the first warrior's striding to right to be not so much directly towards the woman as, passing in front of her, towards the second warrior, and that the first has taken hold of the lower edge of the woman's himation one may interpret to be an indication that she is to turn and follow the two warriors—*longe servet vestigia coniunx*.¹⁰⁰

The composition is reversed on London B 245, a neck-amphora in the manner of the Lysippides Painter (ca. 525 B.C.).¹⁰¹ The woman faces right. The back of the corslet of the first warrior is represented. His right arm, with hand holding sword, point down, is swung back, balancing his left arm stretched out towards the woman. The hand attached to the outstretched arm and grasping the lower part of the edge of the woman's himation is, illogically, a right hand; this is the single confusion caused by the reversal. Kunze interpreted the picture as an Attack,¹⁰² and Mme. Ghali so classed it. A reasonable possibility of interpreting the pose of the first warrior's sword-arm as indicating his threatening the woman with his weapon seems precluded by the fact that the warrior's other hand grasps her left himation-edge rather than her right. For, if one imagine the action momentarily stopped with sword on the point of beginning its upward thrust (and how else could the pose be taken as threatening the woman?), the resumption of action will find the woman's body offset, the sword thrusting at empty space. Furthermore, the threatened-attack interpretation leaves the second warrior dangling (as on Vatican 350 and its Baltimore replica), looking back at the action, yet inexplicably walking away from it. One may in fact suppose the action represented at a moment when the first warrior, who is posed in a stride towards left, the direction taken by the second warrior, is about to pass behind the woman, and she to turn, taking her place with her two escorts.

⁹⁹ *Hélène*, pp. 72-73, nos. 28-29; *Arch. Schildbänder*, p. 164, note 1, no. 3 (Vatican 350); *D.A.B.*, p. 74 (Vatican 350); *Der troische Sagenkreis*, p. 182, note 1, B (Vatican 350). Also Haspels (*B.C.H.*, LIV, 1930, p. 438), von Massow (*Ath. Mitt.*, XLI, 1916, p. 65), and Albizzati, *Vasi del Vaticano*, p. 137) envisage the action of Vatican 350 as the Threatening of Helen—the last most emphatically: “il re . . . in atto di colpirla con la spada, afferra il velo di lei.”

¹⁰⁰ The right hand of the second warrior in both pictures is closed as if about sword hilt or spear shaft, but in neither picture was any weapon drawn.

¹⁰¹ *A.B.V.*, p. 257, no. 13: “among the school-pieces.” *Hélène*, p. 74, no. 34, pl. 45, 1.

¹⁰² *Arch. Schildbänder*, p. 164, note 1, no. 7, following Schneider, *Der troische Sagenkreis*, p. 182, note 1, D; Haspels, *loc. cit.*, takes the picture for a Threatening of Helen.

On Edinburgh 1881.44.27, a neck amphora by the Painter of Vatican 365 (*ca.* 540-530 B.C.),¹⁰³ the woman stands facing left and the warriors on either side of her stride out to right, each with an arm behind her as if to encourage her turning and accompanying them.¹⁰⁴ The first warrior's right hand is closed as though holding a sword.¹⁰⁵ The position of hand and arm implies that, had the sword been rendered, it would have been drawn carried blade up at about 45 degrees across the front of the first warrior's corslet, ready for defence.

In two pictures woman and first warrior are excerpted from the customary trio. In both the woman faces left. On Berlin 1687 (*ca.* 560-550 B.C.) the warrior's left arm extends across the woman's body, his left hand closed over her left wrist.¹⁰⁶ His sword in his right hand is held horizontal. If the illustrator intended to suggest that the sword is posed as a threat to the woman, he left, it is true, sufficient space for the blade to pass unobstructed beneath the warrior's outstretched left arm,¹⁰⁷ but he has also displayed, in imagining the thrust about to develop across the outstretched arm, an astonishing ignorance of positions and movements natural to the universal weapon of his society. The warrior's legs are spread in a stride to right. He may be thought to be in course of walking on in front of the woman, leading her with him, his sword ready against possible opposition.

On the amphora Geneva 15008 (*ca.* 550-540 B.C.) doublets of the pair appear.¹⁰⁸ The leftmost doublet is a close replica of the pair on Vatican 350 (*supra*) except for the position of the Geneva warrior's sword, the blade of which is up at about 45

¹⁰³ Beazley, *A.B.V.*, p. 312, no. 4; Ghali, *Hélène*, p. 74, no. 36, pl. 46, 1; Kunze, *Arch. Schildbänder*, p. 164, note 1, no. 4; Schneider, *Der troische Sagenkreis*, p. 182, note 1, C.

¹⁰⁴ This is not the intent of the second warrior, to right of the woman, if the line which appears in the field between woman and first warrior is in fact a part of the shaft of the second warrior's spear the rest of which the painter, though intending to show him carrying the weapon, neglected to represent. Compare with Mme. Ghali's illustration the photograph on Beazley's plate 4 in *B.S.A.*, XXXII, 1931-32.

¹⁰⁵ Mme. Ghali is in error in saying, *loc. cit.*, that it is the first warrior's right hand which is behind the woman's body. And her ". . . ne la menace pas de son épée" is perhaps ambiguous as to whether she thought the first warrior provided with a sword, but is quite explicit in contradicting her criterion of classification for the group in which the picture is catalogued.

¹⁰⁶ *Hélène*, p. 72, no. 27, pl. 44, 1: Mme. Ghali wrongly, or at least ambiguously, likens the pose to that of the pair on Berlin 1685, ". . . la position de Ménélas et Hélène est semblable. . . ." But see the illustration figured on her plate and compare Furtwängler, *Beschreibung*, I, p. 225: ". . . Helena, die er mit der L. an ihrem 1. Handgelenke fasst. . . ." The comparable piece for the pose is Manchester Aa 45 (*supra*).

¹⁰⁷ And Kunze, *Arch. Schildbänder*, p. 164, note 1, no. 2, following Schneider, *Der troische Sagenkreis*, p. 182, note 1, addendum after F, lists the picture among representations of the Threatening of Helen; so does von Massow, *Ath. Mitt.*, XLI, 1916, p. 65.

¹⁰⁸ Ghali, *Hélène*, p. 73, no. 32, pl. 44, 2. The same museum number is given by Kunze, *Arch. Schildbänder*, p. 164, note 1, no. 5. Both also cite the vase as Beazley, *B.S.A.*, XXXII, 1931-32, p. 3, no. 3, which seems to be the same vase as Beazley, *A.B.V.*, p. 141, no. 2, identified Geneva 30 and listed in the Group of London B 174 near Group E.

degrees rather than horizontal, ready for defence against an enemy rather than a threat to the woman. The warrior of the rightmost doublet in the Geneva picture has his left arm extended behind the woman. If the pose has not been falsified by the modern restorer,¹⁰⁹ one may compare the position taken by the first warrior on Edinburgh 1881.44.27 (*supra*, p. 67 and note 103).

The proposition here argued, then, for Manchester Aa 45 and the eight other black-figure pictures just reviewed is this: they by no means clearly represent warrior threatening woman, much less attacking her, but do in fact show one or another moment in the early stages of an escort. They are better classed with the group of Escorts catalogued by Mme. Ghali (Type II) as inspired by the *Iliupersis* of Arktinos (doubtless with a degree of temerity: *supra*, p. 52).¹¹⁰ On the identification of the characters, there is nothing to add to Beazley's remarks of 1927 (*supra*, p. 9).

The earliest of the Escort group is a lekythos by Lydos from the middle of the sixth century.¹¹¹ Most are black-figure pictures from the second half of that century; the theme is particularly popular with the Antimenes Painter and his circle. Two, in addition to the Odessa plate by Oltos, are red-figure, the later from the first quarter of the fifth century. The figures in the pictures of this group, also, are posed at one or another moment in the early stages of an escort. Some of the pictures, moreover, show an escort well under way, all the figures in motion. Among the most lively of these is the Edinburgh Painter's version on the small neck-amphora once San Simeon 9520.¹¹²

On Boston 13.190, a cup by the Elpinikos Painter,¹¹³ the warrior turns, taking his first step. The position of his sword I take to be due to the mechanics of frontality rather than to any intention of the Elpinikos Painter to represent him threatening the woman with it. Indeed, the warrior's fixed stare suggests that he is loath to take his eyes from the woman's prominent (if well draped) breast.¹¹⁴

¹⁰⁹ See Beazley's warning against the repainting, *loc. cit.*

¹¹⁰ *Hélène*, pp. 99-113.

¹¹¹ At Taranto. Ghali, *Hélène*, p. 99, no. 83; Beazley, *A.B.V.*, p. 111, no. 39.

¹¹² Now belonging to Mrs. Myron Prinzmetal, Beverly Hills. Published by H. R. W. Smith, *A.J.A.*, XLIX, 1945, p. 470. Cf. Haspels, *Attic Black-Figured Lekythoi*, p. 220, no. 81 (reporting the attribution Beazley's); Beazley, *A.B.V.*, p. 478, iv, no. 2; Ghali, *Hélène*, p. 108, k; Kunze, *Arch. Schilddbänder*, p. 165, note 3.

¹¹³ End of sixth century: Ghali, *Hélène*, p. 103, no. 100, pl. 82, 1; Beazley, *A.R.V.*, p. 86, no. 3; Caskey in Caskey and Beazley, *Cat. Boston*, I, p. 6, no. 7.

¹¹⁴ A natural impulse: literary or artistic connection with *Andromache* 629 or *Lysistrata* 155 is not arguable. Caskey, *loc. cit.*, whom Mme. Ghali follows, held that warrior threatens woman with his sword. This gave him his argument for suggesting the identification Menelaos and Helen. A like interpretation provided Kunze an argument for identifying Menelaos and Helen on the Athena Painter's lekythos Berlin 3253 (*Arch. Schilddbänder*, p. 165, note 1; Haspels, *A.B.L.*, p. 255, no. 29, pl. 46, 1 a-b; cf. Furtwängler, *Arch. Anz.*, 1893, p. 86, no. 21): the warrior escorts the woman to right, his right hand on her left wrist; the advanced edge of his torso and left thigh

On Tarquinia RC 2460, a stamnos by the Painter of the Munich Amphora,¹¹⁵ the warrior seems to have taken a step or so from the woman, then stopped, turned, and is now (for once) shaking his sword at the woman presumably to expedite her getting under way.¹¹⁶

Of woman and first warrior on the neck-amphorae Berlin 1842 and once London market, both by the Antimenes Painter, Mme. Ghali writes: “. . . Ménélas se retourne et l'entraîne par un pan de l'himation, tout en tenant l'épée obliquement dirigée contre elle.”¹¹⁷ But it seems unlikely that the Antimenes Painter intended to suggest that first warrior's sword threatened the woman. Surely the intent of the pose is betrayed by the replicas by the Antimenes Painter himself on London B 244 and Villa Giulia 15537¹¹⁸—replicas except for the weapon held by the first warrior, a spear carried in his right hand across the farther side of his torso, obliquely, point up towards rear, exactly the position in which the sword is carried on Berlin 1842 and the amphora once in the London market. It is clear that the warrior cannot be threatening the woman with his spear as the escort gets under way. It should be equally clear that the sword's position is a matter of convenience to the carrier, that the first impression of the blade's being directed against the woman is illusionary—indeed consideration of its position in relation to warrior's back-stretched left arm and hand grasping an edge of the woman's himation shows that the point is directed into the field behind the woman. Robert's interpretation of the significance of the drawn sword (*supra*, p. 61, note 81) seems to me, on the basis of this argument, correct.¹¹⁹

In the pictures on London B 244, Villa Giulia 15537, Berlin 1842, and the neck-amphora once in the London market, the Antimenes Painter apparently shows the back of the first warrior's corslet, his weapon carried in his right hand across the

is not so damaged as to conceal the fact that about half the blade of the drawn sword in his left hand lies on the far side of his body and so suggests no threat to the woman.

¹¹⁵ First quarter of fifth century: Beazley, *A.R.V.*, p. 162, no. 9; Ghali, *Hélène*, p. 103, no. 101, pl. 42, 2.

¹¹⁶ Mme. Ghali illustrates the picture with those of her Attack group (Type I a), but catalogues it with the Escort (Type II), writing of the pose of the sword simply: “Il tient dans la main droite l'épée nue dirigée verticalement.” Of course the picture represents both a threat (not attack) and an escort.

¹¹⁷ *Hélène*, p. 101, nos. 92-93, pl. 80, 1, and pl. 78, 1.

¹¹⁸ Ghali, *Hélène*, p. 108, h, pl. 77, and p. 107, f. For the latter see *C.V.A.* Villa Giulia, 1, III H e, pl. 3, 2 (the second warrior here is stepping, or beginning to step, out towards right after his companion; on London B 244, Berlin 1842, and the vase once in the London market the second warrior stands).

¹¹⁹ *Bild und Lied*, pp. 56-57: offered for London B 244 (by the Antimenes Painter: *op. cit.*, p. 56, a; Beazley, *A.B.V.*, p. 271, no. 74; Ghali, *Hélène*, pl. 77), for Berlin 1842 (same painter: Robert, *op. cit.*, p. 56, d; Beazley, *A.B.V.*, p. 273, no. 110; Ghali, *Hélène*, pl. 80, 1), for the similarly posed first warriors on Gerhard, *A.V.*, pl. 72 (same painter: Robert, *op. cit.*, p. 56, b; Beazley, *A.B.V.*, p. 271, no. 78; Ghali, *Hélène*, pl. 78, 3) and on Gerhard, *A.V.*, pl. 171 (Robert, *op. cit.*, p. 56, c; Ghali, *Hélène*, pl. 78, 2).

front of his corslet, his left arm stretched back towards the woman, and, clasping the edge of her himation, a right hand attached to his left arm. When the painter chose to represent first warrior carrying weapons at ease, as on Los Angeles A 5933.50.7,¹²⁰ he merely added pectoral scrolls to his corslet, so changing the view from corslet-back to corslet-front, and thus the back-stretched arm became the right with a right hand properly attached to it, and left hand and arm remained to carry spear and shield in expected fashion.

In the pictures on the neck-amphorae Gerhard, *A.V.*, pl. 72, and London B 243, the former by the Antimenes Painter and the latter by a member of the Eye-Siren Group of his circle, the second warrior, standing behind the woman, holds an unsheathed sword across the lower part of his corslet, its point apparently directed at the woman's back.¹²¹ Of the woman on Gerhard 72 Mme. Ghali writes: "... Ménélas ... se retourne vers elle en la menaçant d'une épée dirigée obliquement. ... Le second guerrier tient ... une épée dirigée contre la jeune femme. ...". This is to take an unnecessarily pessimistic view of the young woman's situation. The position of the second warrior's weapon, like that of his companion's, may be taken as indication that the escort is to proceed through dangerous terrain. The second warrior's attitude towards the woman is expressed by the gesture of his left arm: outstretched, his left hand at her back, encouraging her to proceed, aiding and abetting the gesture of the first warrior whose left hand holds an edge of the woman's himation as the escort gets under way. This same compositional scheme, I take it, is displayed by the picture on London B 243 where the situation is somewhat obscured by the extraordinary compression of the trio. The anonymous member of the Eye-Siren Group who decorated this pot loaded his field with side-figures (two at right, one at left) and, thus compelled to squeeze first and second warrior embarrassingly close together, elected to give his woman prominence by bringing her out into the foremost plane at the expense of verisimilitude in the representation of an escort.

In Gerhard 72 the Antimenes Painter gave one solution to the problem of perspective: three in file, facing in one direction, physical contact between central and terminal figures emphasizing the intimacy of their connection. In the picture on Compiègne 983¹²² he gave another: first warrior stepping out vigorously to right, second warrior the like to left, both turning heads to look back at the woman standing between them, both with back-stretched hands clasping the edge of her himation. It is not of course that each wishes to tear the woman from the other, simply that the

¹²⁰ *Hesperia*, XXIV, 1955, p. 23; Beazley, *A.B.V.*, p. 273, no. 108.

¹²¹ Gerhard 72: see note 119. London B 243: *C.V.A.*, 4, pl. 59, 3 a; *Hélène*, p. 104, no. 104, pl. 81; *A.B.V.*, p. 286, no. 7.

¹²² Ghali, *Hélène*, p. 100, no. 89, pl. 78, 4 (cf. the "Errata des Planches"). From Miss Haspel's listing of the vase in *B.C.H.*, LIV, 1930, p. 437, I do not know how she interprets the problem of perspective.

Antimenes Painter fails to use the illusionistic devices necessary correctly to represent warriors stepping out shoulder to shoulder and leading the woman behind them. This interpretation may also serve to explain the pose on Florence 76179, a neck-amphora by the Antimenes Painter,¹²³ on Munich 1392, a type B amphora related to him,¹²⁴ on Gerhard 171, a neck-amphora which should at least be contemporary with the Antimenes Painter's work,¹²⁵ and even perhaps on Florence 4148, which is doubtless somewhat later.¹²⁶

Into her group of Escort pictures Mme. Ghali has admitted, in addition to the red-figured lekythos Berlin 30835 by the Painter of the Yale Lekythos,¹²⁷ a considerable number of other pictures which are doubtless to be taken as a Warrior's Departure.¹²⁸ I list the pieces in question. Amporae B: Copenhagen 5613,¹²⁹ Rhodes 10604,¹³⁰ and Rhodes 13447.¹³¹ Neck-amphorae: Tarquinia RC 2464,¹³² and the following, by the Antimenes Painter or by members of his circle, Villa Giulia 15731,¹³³ Toronto 309,¹³⁴ Villa Giulia 1203,¹³⁵ Florence 3845,¹³⁶ and Copenhagen 3858.¹³⁷ Lekythoi: London B 26¹³⁸ and Berlin 1739.¹³⁹ Tripod: Louvre F 151.¹⁴⁰ Most of these pictures are

¹²³ Ghali, *op. cit.*, p. 100, no. 88, pl. 79, 2; Beazley, *A.B.V.*, p. 269, no. 38.

¹²⁴ *C.V.A.*, 1, pl. 26, 2; Ghali, *op. cit.*, p. 107, g; Beazley, *A.B.V.*, p. 281, no. 16.

¹²⁵ Ghali, *op. cit.*, p. 101, no. 94, pl. 78, 2.

¹²⁶ *Op. cit.*, p. 101, no. 91, pl. 79, 1.

¹²⁷ *Supra*, p. 61, note 81.

¹²⁸ For the subject see Beazley on Vatican G 19 (*Rac. Guglielmi*, p. 31), who refers to Mingazini, *Vasi Cast.*, pp. 244-245, where a list of Departure pictures is to be found: cf. Kunze, *Arch. Schilddänder*, p. 165, note 3.

¹²⁹ Ghali, *Hélène*, p. 109, i; *C.V.A.*, 3, III H, pl. 103, 1 b, and text *ad loc.*, of woman and warriors: ". . . tous trois marchant à gauche"—but actually the woman seems to be posed as standing.

¹³⁰ Ghali, *op. cit.*, p. 109, c; *C.V.A.*, 1, III H e, pl. 1, 2. Again the woman stands, *pace* Jacopi, *C.V.A.* text *ad loc.*

¹³¹ By the Rycroft Painter: Ghali, *op. cit.*, p. 110, 1; *C.V.A.*, 2, III H e, pl. 21, 2; Beazley, *A.B.V.*, p. 336, no. 15 (replica on the neck-ampora Ghent 12, *ibid.*, no. 21).

¹³² Ghali, *op. cit.*, p. 109, h, pl. 83, 2.

¹³³ By the Antimenes Painter: Ghali, *op. cit.*, p. 110, m; *C.V.A.*, 3, pl. 18, 5; Beazley, *A.B.V.*, p. 272, no. 98.

¹³⁴ Related to the Antimenes Painter: Ghali, *op. cit.*, p. 110, n; Robinson, Harcum, Iliffe, *Gr. Vases Toronto*, pl. 44; Beazley, *A.B.V.*, p. 281, no. 8. Singled out by Kunze for a Departure picture, *Arch. Schilddänder*, p. 165, note 3.

¹³⁵ Eye-Siren Group: Ghali, *op. cit.*, p. 109, g; *C.V.A.*, 1, pl. 7, 2 (woman stands, *pace* Giglioli); Beazley, *A.B.V.*, p. 286, no. 9.

¹³⁶ Compared to the Eye-Siren Group: Ghali, *op. cit.*, p. 109, e, pl. 84, 1; Beazley, *A.B.V.*, p. 287, no. 1 towards top.

¹³⁷ Akin to Group of Würzburg 199: Ghali, *op. cit.*, p. 109, j; *C.V.A.*, 3, pl. 107, 2 a; Beazley, *A.B.V.*, p. 290, no. 1 at top.

¹³⁸ Ghali, *op. cit.*, p. 108, a; Haspels, *A.B.L.*, p. 29, pl. 9, 1 a-b.

¹³⁹ Ghali, *op. cit.*, p. 109, d; Furtwängler, *Beschreibung*, I, p. 282 ("Wohl eine halbverstandene Darstellung von Menelaos und Helena"); Haspels, *A.B.L.*, pp. 29-30 ("woman and warriors").

¹⁴⁰ Ghali, *op. cit.*, p. 104, no. 105, pl. 80, 2.

summarily listed in the Escort sub-group where "le guerrier ne touche pas la femme."¹⁴¹ Another item there listed belongs elsewhere, the lekythos Fogg 2205,¹⁴² clearly an Escort since the first warrior holds firmly an edge of the woman's himation as he steps to right. Indeed, of the fifteen items listed in Mme. Ghali's sub-group none appears to belong except possibly the three or four which lack a readily available illustration.¹⁴³

When so much of literature's record of the Recovery is lost and so much of the pictorial record is anepigraphic, very little can be argued about the nature or direction of influences. It does seem clear, however, that there is no very good reason to suppose that either Euripides at *Andromache* 629 or Aristophanes at *Lysistrata* 155-156 wrote under the influence of any work of one of the representational arts. The earliest pictorialization of reasonably possible identification, the pair in the Iliupersis by Lydos on Berlin 1685,¹⁴⁴ is a fair illustration of the language of Photios in his account of

¹⁴¹ *Op. cit.*, pp. 108-110.

¹⁴² *Op. cit.*, p. 110, k; *C.V.A.*, III H e, pl. 11, 7.

¹⁴³ *Op. cit.*, p. 108, b; p. 109, f; p. 110, o; and p. 110, note 1.

¹⁴⁴ *Supra*, p. 61. The murder scene on one face of the early sixth-century Sparta Base, Wace no. 1 (Tod and Wace, *Cat. Sparta Museum*, pp. 132-133), is frequently held to represent Menelaos' attack upon Helen (so, for example, Picard, *Manuel*, I, pp. 456-457, followed by Ghali, *Hélène*, p. 71, no. 24; Möbius, *R.E.*, s.v. Stele, col. 2310; Kunze, *Arch. Schilddänder*, p. 164; and, with a query, Lippold, *Gr. Plastik*, p. 31). Wace's sentences of 1906, serpents notwithstanding, remain true: "The scenes have been variously explained as (1) A. Orestes and Clytemnestra, B. Orestes and Electra; (2) A. Eriphyle and Polynikes, B. Eriphyle and Alcmaeon; (3) A. Menelaos and Helen meeting at the sack of Troy, B. Alcmene and Zeus. It is impossible to say if any of these is right or if the true explanation is still to seek." The figures in the Escort pictures on the Olympia shield-reliefs of the first half of the sixth century are anonymous on Kunze's convincing argument (*op. cit.*, pp. 165-166, 170), represent Paris' abduction of Helen if one give credence to Mme. Ghali's unpersuasive interpretation (*op. cit.*, pp. 49-50, 51-53); on the uncertainties of the early fifth-century Escort picture on Olympia relief XI d, control Mme. Ghali's description (*op. cit.*, p. 103, no. 102) by means of Kunze's (*op. cit.*, p. 16)—as for the escorting warrior's sword, if there was a sword, its position shares the ambiguity of the weapon's position in other escorts. The picture of Menelaos and Helen in Iliupersis on the Kypselos Chest (Ghali, *op. cit.*, p. 72, no. 25), of the turn of the seventh and sixth centuries (von Massow, *Ath. Mitt.*, XLI, 1916, pp. 13-15; Lippold, *R.E.*, s.v. Kypselos, cols. 121-126), is lost. What Pausanias in the second century after Christ thought it represented, he says (V, 18, 3): *Μενέλαος δὲ θώρακά τε ἐνδεδυκὸς καὶ ἔχων ξίφος ἔπεισιν Ἑλένην ἀποκτείνει δῆλα ὡς ἀλίσκομένης Ἰλίου*. "Menelaos, armed in corslet and holding his sword, attacks Helen to kill her, clearly at the sack of Troy." As models for the interpretation of the scene von Massow cites Berlin 1685 and 1687, Vatican 350, and Edinburgh 1881.44.27 (dealt with *supra*, pp. 61-63, 65-66, 67), but in his drawing (plate 1, sixth from left in lower row of metope-panel pictures) constructs a two-figure composition more clearly in accord with Pausanias' interpretation than is any of his models. Von Massow cites also the Murder of Ismene on the Late-Corinthian neck-amphora Louvre E 640 (ca. 575-550 B.C.: Pottier, *Vases antiques du Louvre*, I, p. 58, pl. 50; Pfuhl, *Malerei und Zeichnung*, III, fig. 178; Robert, *Arch. Herm.*, p. 140, fig. 109; Payne, *Necrocorinthia*, p. 327, no. 1437, pl. 40, 1-2; Benson, *Die Geschichte der Korinthischen Vasen*, p. 61, Tydeus Painter no. 1—cf. Payne, *op. cit.*, pp. 110-111)—a lively murder scene, but

the summary of the content of the *Iliupersis* by Arktinos, but confidently to claim that Lydos therefore was painting directly under the influence of the Arktinos poem is another matter, for Μενέλαος ἀνευρὼν Ἑλένην, like ἐπὶ τὰς ναῦς κατάγει, is fundamental to her legend at least from the *Odyssey*'s time. Even more problematical is the true identification of the characters in any one of the black-figure pictures of warrior or warriors escorting woman, and, *a fortiori*, problematical also a connection between picture and Arktinos' poem. The Pursuit-and-Flight series, and its sub-class which shows Menelaos' sword falling, illustrates well enough the reports of scholiasts *Wasps* 714 and *Andromache* 630 of Ibykos' version of the Recovery. The work of Oltos, the earliest attested producer of Pursuits and Flights certainly concerned with Menelaos and Helen, was enjoyed—or should have been—by those friends of the sons of Peisistratos whose companion was Anakreon, once the associate of Ibykos at the court of Polykrates and now the intermediary between that gay court and the Athenian. Three considerations effectively block an attempt to associate these facts in a pleasant account of Anakreon's role as popularizer of the court-poetry of Polykrates and the sons of Peisistratos among pottery ateliers of Athens. (a) It is a possibility that the characters in the Pursuit and Flight on Mykonos K 31092, which was doubtless painted before Anakreon came to Athens, were in fact intended for Menelaos and Helen. (b) The sub-class with the sword of Menelaos falling, Ibykan on the showing of schol. *Andromache* 630, is not attested earlier than the period of the Berlin Painter's late work, some decades after Oltos' time.¹⁴⁵ Finally, and most important of all, (c) scholiast Leidensis-Vossianus *Lysistrata* 155 explicitly claims also for the *Little Iliad* of Lesches the story of the Recovery found in Ibykos. The Pursuits and Flights are doubtless indebted for inspiration to one or the other, or perhaps now to one and now to the other. Connections are obscure.

PAUL A. CLEMENT

UNIVERSITY OF CALIFORNIA, LOS ANGELES

unrelated in composition either to the Attic pictures or to von Massow's own drawing for the Kypselos Chest picture.

¹⁴⁵ Somewhat later too than the period when it occurred to vase-painters to put Anakreon's portrait in their pictures: on London E 18, a cup by Oltos himself (Beazley, *A.R.V.*, p. 40, no. 69); on fragments of a calyx-krater in Rome, or once so, very early work of the Kleophrades Painter (*A.R.V.*, p. 123, no. 29); on Syracuse 26967, a lekythos by the Gales Painter (*A.R.V.*, p. 31, no. 2 at top). See further, Richter, *Attic R.F. Vases*, pp. 44 and 58.

A NEW LOGOS INSCRIPTION

(PLATE 18)

Editor's Note

Unfortunately Professor Robinson's final illness prevented him from completing a check of some points that arose in the final version of this article. The Editor has allowed to remain all material she believes he would have wished to be included. She records here also her appreciation of assistance received from several of Professor Robinson's friends, offered as a tribute to him.

IN the summer of 1956, when I attended the opening of the Museum of the Agora in the Stoa of Attalos, I found in a dealer's shop a unique non-Attic inscribed stele. I made a copy before the stone, I paid half of its purchase price and the Friends of the Museum the other half, and the stone has been given to the National Museum in Athens, where it is now kept in the Epigraphical Section (E.M. 13,198).¹ Plate 18. Stele of close-grained island marble (possibly Parian) with original flat top and molding (taenia surmounting a cyma reversa). The original edges of the front are preserved on top and on both sides, but the bottom is broken. On the taenia, we have the word of good omen, Θεοί. There is some slight damage at the left edge of the stele, but sixteen lines of text are well preserved, and parts of four more lines. How much is lost is impossible to conjecture. The back has been cut down in recent times to make the stone lighter for transportation, so that the original thickness cannot be determined. The inscribed surface is worn (except on the first three or four lines) as though it had been walked over. This makes the reading difficult, but with magnifying glasses, the squeeze and the photograph, I have, after long study, corrected my original copy of the stone, and I feel now that we have a complete and certain text with one or two doubts about two or three of the names.

Height, 0.28 m.; width at top (not including the projection of the molding), 0.55 m.; present thickness, 0.045 m.

Height of letters, line 1, 0.015 m., except for the round letters which are 0.01 m.; lines 2-19, *ca.* 0.008-0.009 m., O and A 0.006 m., Σ, 0.01 m.

The letter forms (*sigma* with spreading bars, *alpha* with curved, almost broken, cross bar) suggest a date *ca.* 200 B.C., and this accords well with the occurrence (in line 3) of a month of the Macedonian calendar.

¹I am indebted for help to Professors Marinatos, Caskey and Vanderpool, to my student Martha Caldwell for making me a copy and for sending me a squeeze, and to Miss Alison Frantz for the photograph.

NON-ΣΤΟΙΧ. ca. 59-70

θ ε ο ί

[Ἐ]πὶ δαμιοργοῦ Νικομήδους λόγος τῶν αἰρεθέντων ἐπὶ τὴν
ἀπόδοσιν Ἀριστο

[φά]νους, Ποσθαλίωνος, Ἐπαινέτου· λῆμμα Ἀριστοφάνους Δίου
τῆς εἰκοσημε

[ρίας] παρὰ ταμία Ὀνασιμίδα ἀπὸ τῶν τελῶν· ΗΗ^ΠΔΔΗ^ΠΙΙΙ C-,
ἀπὸ λίθου· ΗΗ^Π ^v

5 [ΔΔ]ΔΗ^ΠΗ^Π[Ι: Μ]οσχίου παρὰ ταμία Ἀριστοφάνους ἀπὸ τῶν τελῶν:
^ΠΗΗΗ^ΠΔΔΔΗ^ΠΙΙ-//

[ἀ]πὸ λίθου: ΗΗΔΔΔΠ^ΠΗ^ΠΗ^ΠΙΙ-: Πανίου παρὰ ταμία Φιλοφάνους
ἀπὸ τῶν τελῶν: ΗΗΗΔΠ^ΠΗ^ΠΗ^ΠΙ/

ἀπὸ λίθου: Χ^ΠΗ^ΠΗ^ΠΗ^ΠΙΙ C-//: Δαματρίου παρὰ ταμία
Σωσικράτους οὐθὲν ἔλαβον

Βα[δ]ρομίου παρὰ ταμία Ζηνία ἀπὸ τῶν τελῶν: ΗΗΗΔΗ^ΠΗ^ΠΙΙΙ C-//:
ἀπὸ λίθου: ΗΗΔΔΗ^ΠΗ^ΠΗ^ΠΙ C-/

Γενεσίου παρὰ ταμία Διοδότου ἀπὸ τῶν τελῶν: ΗΗΗΗ^ΠΗ^ΠΗ^ΠΙΙΙ C:
ἀπὸ λίθου: ΔΔΔΠ^ΠΗ^ΠΙΙΙ C[.]

10 Κροκαγορίου παρὰ ταμία Ὀνασιμίδα ἀπὸ τῶν τελῶν:
ΗΗΗΠ^ΠΗ^ΠΗ^ΠΗ^ΠΙΙΙ C-//: ἀπὸ λίθου: ΗΔΔΔ

Π^ΠΙΙΙ: Δεικνίου παρὰ ταμία Ἀριστοφάνους ἀπὸ τῶν τελῶν:
ΗΗΗΔΔΠ^ΠΗ^ΠΗ^ΠΗ^ΠΙΙΙ C-//: Θερμίου πα

ρὰ ταμία Φιλοφάνους ἀπὸ τῶν τελῶν: ΗΗΗΔΠ^ΠΗ^ΠΗ^ΠΙΙ C-//:
ἀπὸ λίθου: ΗΔΔΗ^ΠΗ^ΠΙ/: Ἰαπάτου πα

ρὰ ταμία Ζηνία προβατικοῦ: ^ΠΗΗΗ^ΠΔΔΔΠ^ΠΗ^ΠΗ^Π C: ἀπὸ λίθου:
ΗΗΠ^ΠΗ^ΠΗ^ΠΙΙΙ-//: ἀπὸ δὲ τῶν τελῶν

οὐθὲν ἔλαβον: Ἡναίου παρὰ ταμία Διοδότου ἀπὸ τῶν τελῶν:
ΗΗΗΗ^ΠΗ^ΠΗ^ΠΗ^ΠΙΙΙ C: ἀπὸ λί

15 [θ]ου: Π^ΠΗ^ΠΗ^Π C: προβατικοῦ: ^ΠΗΗΗ^ΠΔΔΔΔΠ^ΠΗ^ΠΗ^ΠΙΙΙ C: Ἱεροῦ
παρὰ ταμία Φιλοφάνους ἀπὸ

[τῶν] τελῶν: ΗΗΗΗ^ΠΔΔΔΔΠ^ΠΗ^ΠΗ^ΠΙΙΙ C/: Πασίου παρὰ ταμία
Σωσικράτους ἀπὸ τῶν τε ^v

[λῶν: ----- ἀπὸ λίθου --] Η^ΠΗ^ΠΙΙΙ C-/: καὶ
π[αρὰ] ταμιῶν τῶμ περὶ Ὀνασιμίδα

[-----]ΙΙ C-: [Δίου
τοῦ δ]εχημέρον παρὰ ταμία Σ [---]

[-----] ΗΗΔΔΔΔΗ^ΠΗ^ΠΗ^ΠΙΙΙ C-//: πα[ρὰ. .]
20 [-----] ΕΙΘΕ [-----]

This is an inscription of a new type of which I have not found any other examples. It is very different from other known accounts.

Line 2: The dating by a damiourgos shows that the inscription may belong to a Doric town; see v. Schoeffer, *R.E.*, s.v. Demiorgoi, no. 3.

The name Nikomedes is common, both in Athens and in Doric cities. There is no Nikomedes in the lists of damiourgoi of Kameiros² though a Nikomedes son of Nikomachos does appear as priest of Dionysos and the Muses at Kameiros³ and a Nikomachos son of Nikomedes as tamias in Rhodes.⁴ Nikomedes occurs frequently as the magistrate's name on coins of Kos,⁵ especially in an unpublished hoard of over one hundred coins of Kos in my collection (probably to be dated 166-88 B.C.).

The use of the noun ἀπόδοσις for payment is rare, but the verb, mostly in the form ἀποδίδωσιν or ἀπόδωσιν is frequent. Λόγος in the sense of account is rare, but, though restored, it does seem to occur in *I.G.*, II², 1635, line 77 Κεφάλαιον τοῦ περιόντος σὺν τ[ῶι] ἐκ τοῦ προ[τέρου λόγου].

Line 3: The committee to collect the money consists of three men, Aristophanes, Posthalion and Epainetos. Posthalion is a new name, but we know Posthon, Posthion⁶ and Posthylos.⁷

A single dot in the center of the line is used for punctuation here and in line 4; elsewhere in this inscription two dots are used for punctuation.

Dios is the first month of the Macedonian calendar which was used extensively throughout the Hellenistic world. Its position in the year varies in different places, but in this inscription, Dios is probably also the first month, and the accounts began within this month.

The εἰκοσημερία is not attested, but other compounds ending in -ία, -ος, and -ον are well known. It would mean "period of twenty days" and correspond to [δ]εχήμερον in line 17.

Line 4: Payments were made to Aristophanes by a number of ταμίαι, stewards: Onasimidas (lines 4, 10, 17), Aristophanes (lines 5, 11), Philophanes (lines 6, 12, 15), Sosikrates (lines 7, 16), Zenias (lines 8, 13), Diodotos (lines 9, 14), S — — (line 18). These payments were made from three sources: τέλη, λίθος, προβατικόν; the majority ἀπὸ τῶν τελῶν. Τέλη are probably dues or taxes on property; the meaning of λίθος in this usage is not quite certain, but may refer to building stone. For προβατικόν see line 15.

² *Annuario*, XI-XIII, 1949-1951, pp. 149 ff.

³ *Ibid.*, p. 199, no. 45, line 24.

⁴ *I.G.*, XII, 1, no. 50, line 31.

⁵ W. L. Paton and E. L. Hicks, *The Inscriptions of Cos*, Index p. 380.

⁶ H. Herter, *R.E.*, s.v. Posthon.

⁷ *Inscr. Cret.*, II, p. 264, no. 52.

Line 5: There is no sure trace of the first letter of [M]οσχίου. Several of the names at the beginning of the entries are known as names of Greek months: Damatrios (line 7), Badromios (line 8), Genesios (line 9), Hieros (line 15); see Bischoff, *R.E.*, s.v. Kalender, cols. 1597-1602. Others look like possible names of months: Panios (line 6), Moschios (line 5), Krokagorios (line 10), Deiknios and Thermios (line 11), Enaios (line 14), Pasios (line 16). Only Iapatos (line 12) looks strange. On the other hand, only Damatrios (line 7), Hieros (line 15) and Pasias (line 16) are known as proper names, although we know many Greek proper names.⁸

The signs — and / must indicate fractions smaller than the half obol.⁹

Line 6: Panios is a new name; see note on line 5.

Line 7: Note that here and in lines 13-14 there is record of no payment. οὐθὲν occurs in Attic inscriptions after 379 B.C.

Line 8: Zenias is a new name. See also line 13.

Line 9: Genesios is known as the name of a month; see note on line 5.

Line 10: For Krokagorios see note on line 5.

Line 11: For Deiknios and Thermios see note on line 5.

Line 12: For Iapatos see note on line 5.

Line 13: For προβατικόν and προβάτων φόρος as tax on sheep, see M. v. Herwerden, *Lexicon Graecum suppletorium*, s. vv. προβατικός and προβάτων φόρος; F. Preisigke, *Wörterbuch*, III, Abschnitt II, s. vv. προβατικόν and φόρος προβάτων; U. Wilcken, *Gr. Ostraka*, I, p. 286.

Line 14: For Enaios see note on line 5.

Line 15: Hieros is known as the name of a month; see note on line 5.

Line 16: Pasios is known as a proper name, both on Kos and elsewhere.

Line 17: This is the only case in this inscription of more than one ταμίας; Onasimidas was evidently chairman of the group.

Line 18: For [δ]εχημέρον, a space of ten days, see comment on line 3.

A tentative translation, in schematic form, may be added:

During the year of Nikomedes as damiourgos. Account of those chosen for the payment, namely of Aristophanes, Posthalion, Epainetos, Receipt of Aristophanes.

During the twenty day period of Dios from steward Onasimidas from the dues 272 drachmas 3½ obols, from "stone" 283 drachmas 1 obol.

⁸ See W. Pape, *Wörterbuch der griechischen Eigennamen*; F. Bechtel, *Die historischen Personennamen des Griechischen*.

⁹ See M. N. Tod, *B.S.A.*, XVIII, 1911-1912, pp. 98-132; XXVIII, 1926-1927, pp. 141-157; XXXVII, 1936-1937, pp. 236-257.

During Moschios from steward Aristophanes from dues 881 drachmas 3 obols, from "stone" 239 drachmas 2 obols.

During Panios from steward Philophanes from the dues 318 drachmas 1 obol, from "stone" 1054 drachmas $2\frac{1}{2}$ obols.

During Damatrios from steward Sosikrates I (or they) received nothing.

During Badromios from steward Zenias from the dues 313 drachmas $3\frac{1}{2}$ obols, from "stone" 224 drachmas $1\frac{1}{2}$ obols.

During Genesios from steward Diodotos from the dues 304 drachmas $4\frac{1}{2}$ obols, from "stone" 36 drachmas $4\frac{1}{2}$ obols.

During Krokagorios from steward Onasimidas from the dues 309 drachmas $3\frac{1}{2}$ obols, from "stone" 135 drachmas 4 obols.

During Deiknios (this may be an intercalary month) from steward Aristophanes from the dues 328 drachmas $5\frac{1}{2}$ obols.

During Thermios from steward Philophanes from the dues 318 drachmas $2\frac{1}{2}$ obols, from "stone" 122 drachmas 2 obols.

During Iapatos from steward Zenias *probatikon* 777 drachmas $\frac{1}{2}$ obol, from "stone" 207 drachmas 4 obols, but from the dues I (or they) received nothing.

During Enaios from steward Diodotos from the dues 304 drachmas $4\frac{1}{2}$ obols, from "stone" 8 drachmas $2\frac{1}{2}$ obols, *probatikon* 799 drachmas $3\frac{1}{2}$ obols.

During Hieros from steward Philophanes from the dues 498 drachmas $4\frac{1}{2}$ obols.

During Pasios from steward Sosikrates from the dues — — — —, and from the stewards with Onasimidas — — —.

During the ten day period of Dios from steward S — — —.

The sums received from the stewards vary greatly. The receipts from the ten ἀπὸ τῶν τελεῶν range from 272 drachmas $3\frac{1}{2}$ obols to 881 drachmas 3 obols; seven a little over 300, one 498 drachmas $4\frac{1}{2}$ obols. In ten receipts of income ἀπὸ λίθου there is even more variation, from 8 drachmas $2\frac{1}{2}$ obols to 1054 drachmas $2\frac{1}{2}$ obols, two under 100 drachmas, two 100-200, four 200-300, one 343 drachmas $4\frac{1}{2}$ obols. There are only two cases of *προβατικόν*, 777 drachmas $\frac{1}{2}$ obol and 799 drachmas $3\frac{1}{2}$ obol.

This inscription has been presented in this preliminary way in order to make it known promptly to those who are interested in economic history and in this type of document.

†DAVID M. ROBINSON

UNIVERSITY, MISSISSIPPI

Friends of David M. Robinson are interested in establishing a Fellowship in his memory at the American School of Classical Studies at Athens. Those interested should communicate with the Secretary of the School, Professor C. A. Robinson, Jr., Department of Classics, Brown University, Providence, R. I.

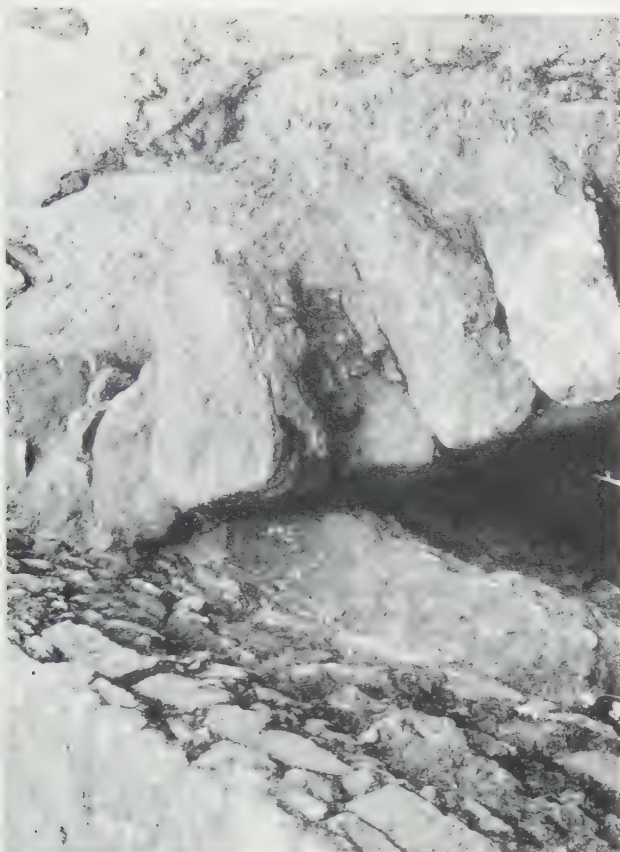
CORRECTION ON PROVENIENCE OF TERRACOTTA SPHINX FROM CORINTH

As soon as my study of terracotta sculpture at Corinth appeared in *Hesperia*, XXVI, 1957, pp. 289-319, Dr. Dorothy K. Hill kindly informed me of an error with respect to the provenience given for No. 33, a sphinx akroterion. This akroterion had been found by Dr. Hill in 1931 while excavating the area being prepared for the erection of the Corinth Museum, rather than in Well 3 in the adjacent Temple E area, to which it was erroneously ascribed in the inventory. While the context does not, therefore, give a *terminus ante quem* of 500 B.C.—Dr. Hill informs me that the fragments of the sphinx did not come from any significant context—the comparative material cited in *Hesperia*, XXVI, 1957, pp. 314-315, points to a date in the last quarter of the sixth century B.C. I am grateful to Dr. Hill for making this correction and for pointing out the circumstances of finding the sphinx, as well as to Professor John L. Caskey, Director of the American School of Classical Studies at Athens, for checking the excavation notebooks at Corinth and verifying the entries regarding the sphinx.

SAUL S. WEINBERG



a. Archaic Road, from West



b. Early Terrace Wall (right), Roman Temenos Wall (left)



c. Section through North Temenos Dump



d. Debris from Archaic Temple



a. Long Altar of Poseidon, from South



b. Roads Crossing Altar Foundation, from Northwest



c. Second Altar of Poseidon, from Southwest



d. Second Altar of Poseidon, from North

OSCAR BRONEER: EXCAVATIONS AT ISTHMIA, THIRD CAMPAIGN, 1955-56



a. Foundation of Temenos Wall, Showing "Layer-Cake" Technique



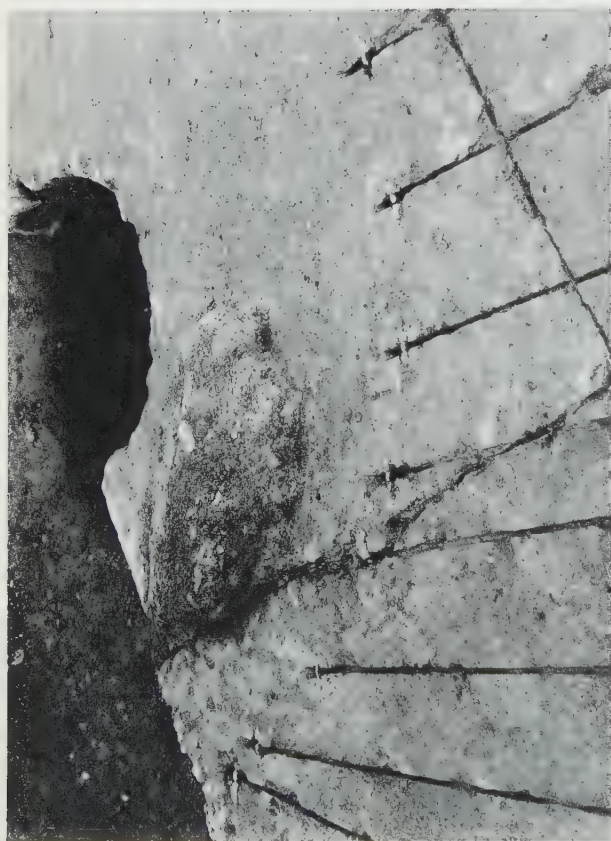
b. Southeast Propylon, from Southeast



c. Water Channels Crossing Palaimonion Area



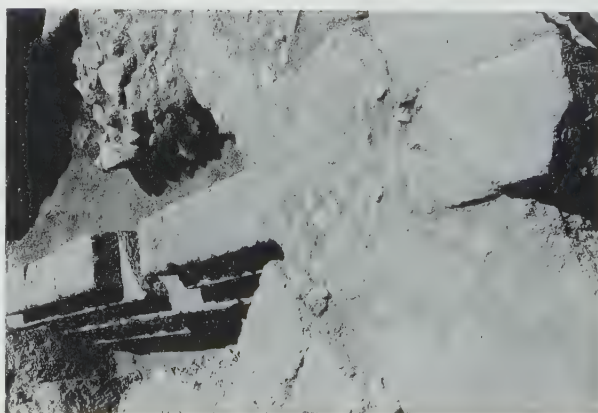
d. Parallel Walls, Intercepted by Second Altar of Poseidon



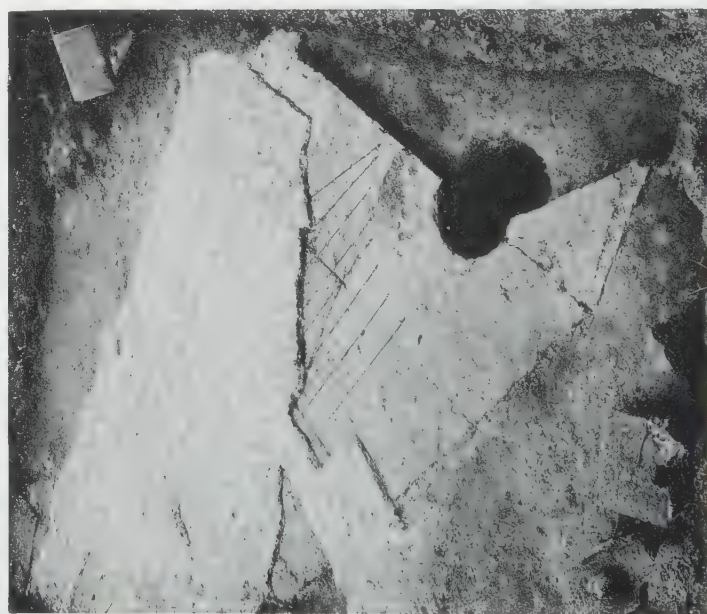
a. Triangular Pavement, Ends of Grooves Bridged by Bronze Staples



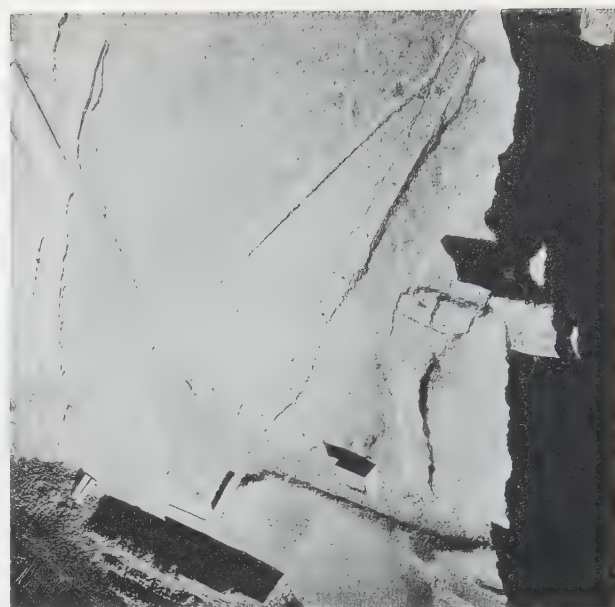
b. Triangular Pavement, from Northeast



c. Northeast Parallel Wall



d. Clay Flooring Covering Triangular Pavement



e. Triangular Pavement, from East



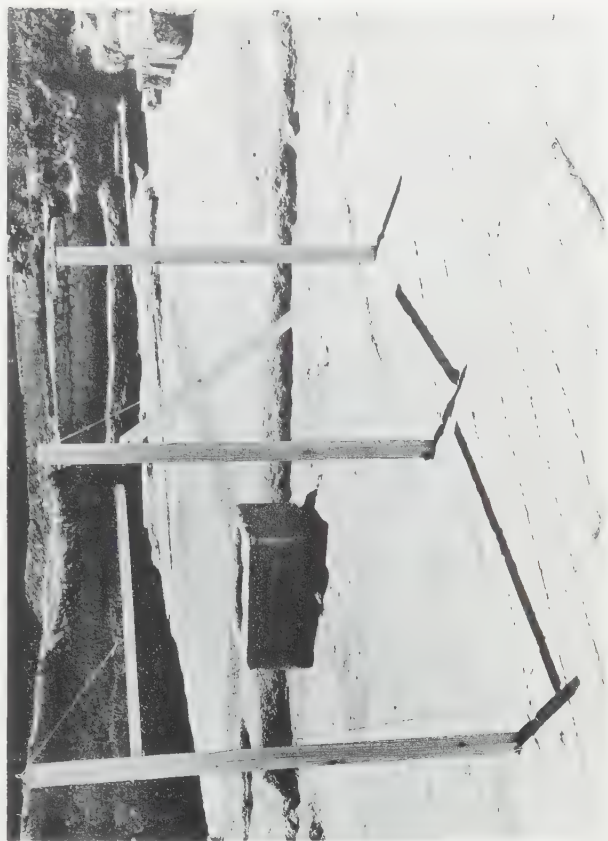
a. Juncture of Water Channels



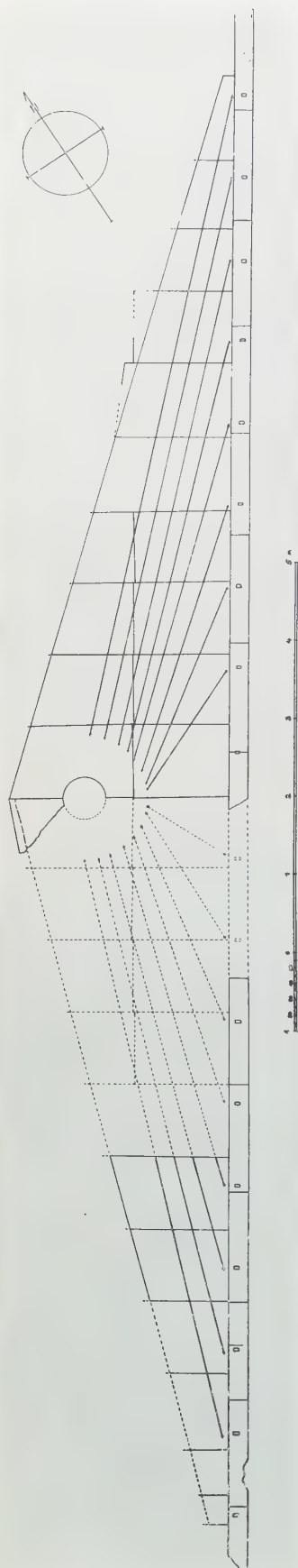
b. Early Stadium Area, from South



c. Late Starting Line and Water Channel of Early Stadium, from East



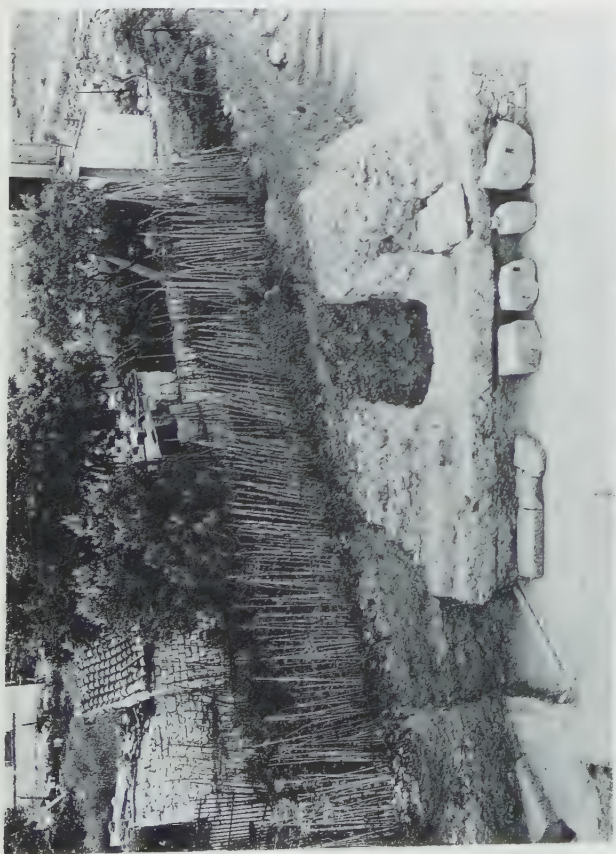
d. Starting Gates, with Balbides



a. Triangular Pavement, Restored Plan



b. Starting Gates, in Use



a. Roman Foundation, East End, Identified as Palaimonion



b. Lamps and Pottery in Palaimonion Area



c. House of Loomweights on Rachi



d. Cluster of Loomweights and Tiles



a. House with Bathtubs on Rachi



b. Large Wine-Press on Rachi



c. South Gate of Justinian Fortress



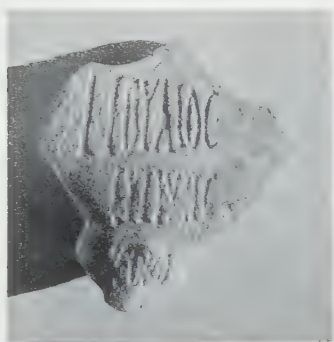
d. Wall and Tower at South Gate of Fortress



a. Seisiphos Base, Front



b. Blastos Base



c. Eutyches Inscription



d. Iuventianus Base



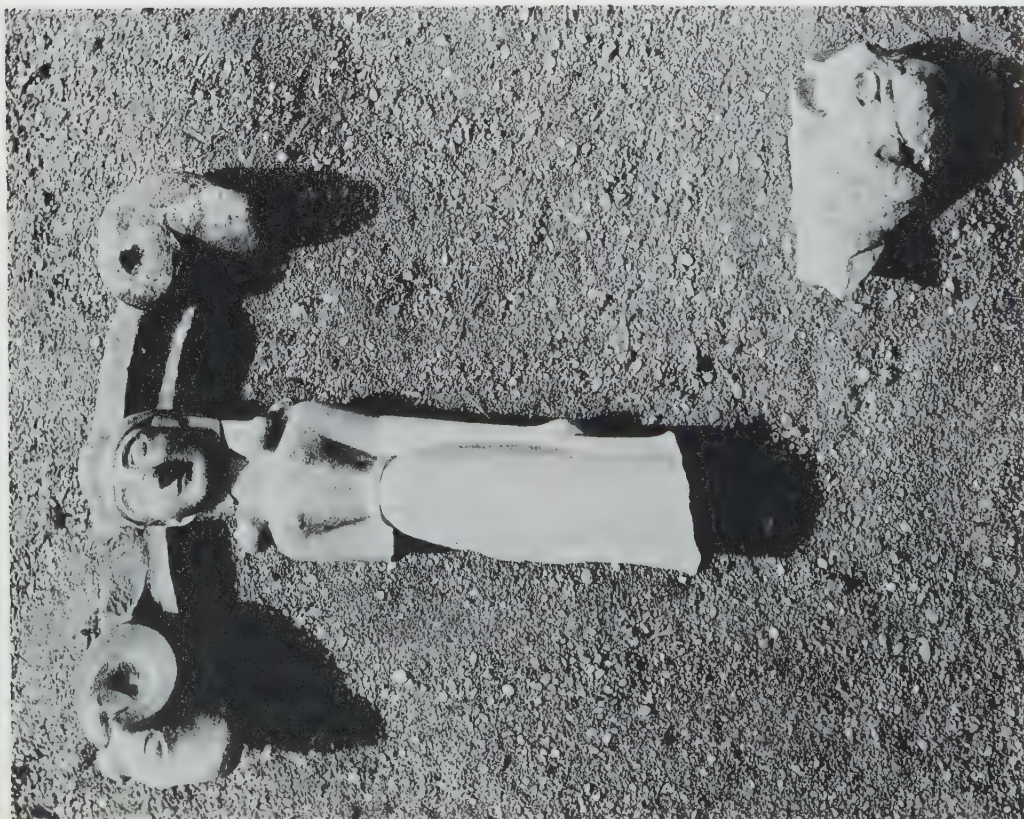
f. Fragments of Statue of Pan



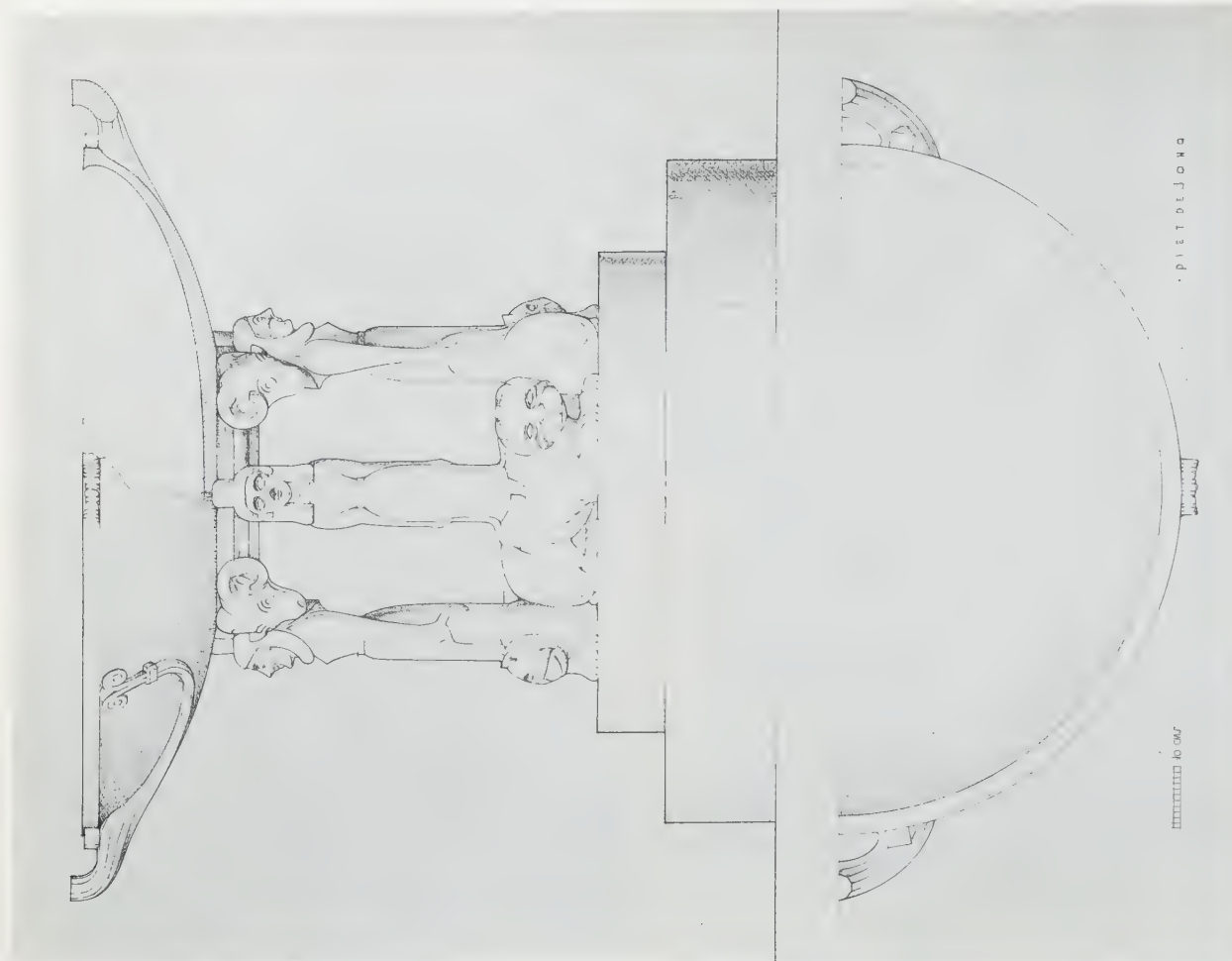
e. Altar Dedicated to Hercules



g. Left Foot of Hermes Statue



a. Fragments of *Perirrhanterion*



b. *Perirrhanterion*, Restored



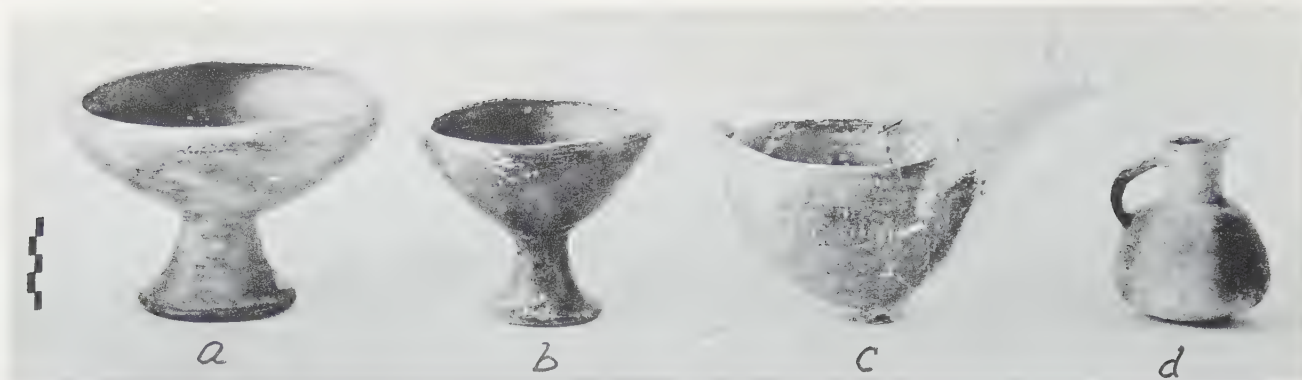
a. *Perirrhanterion*, Reconstructed



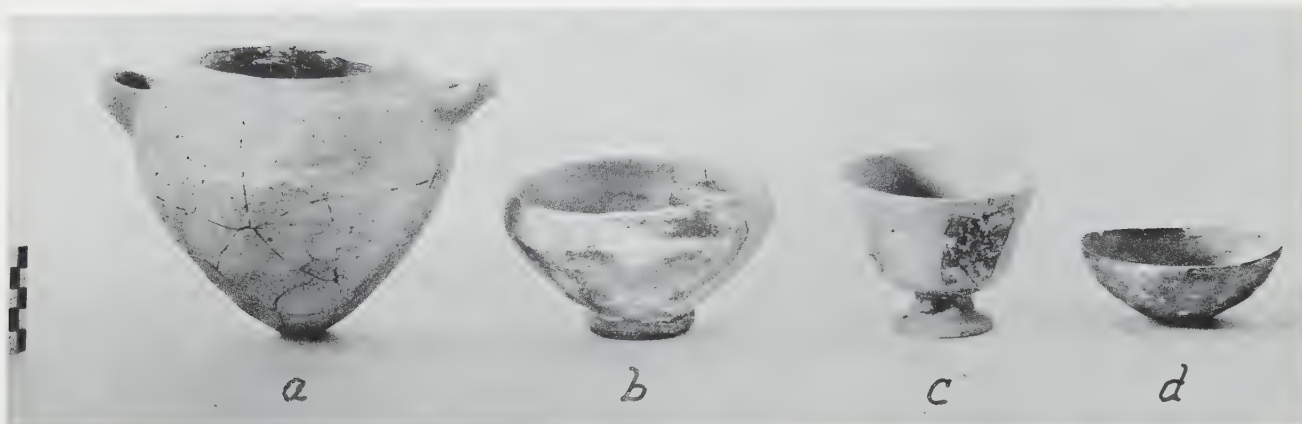
b. Fragment of Painted Pinax



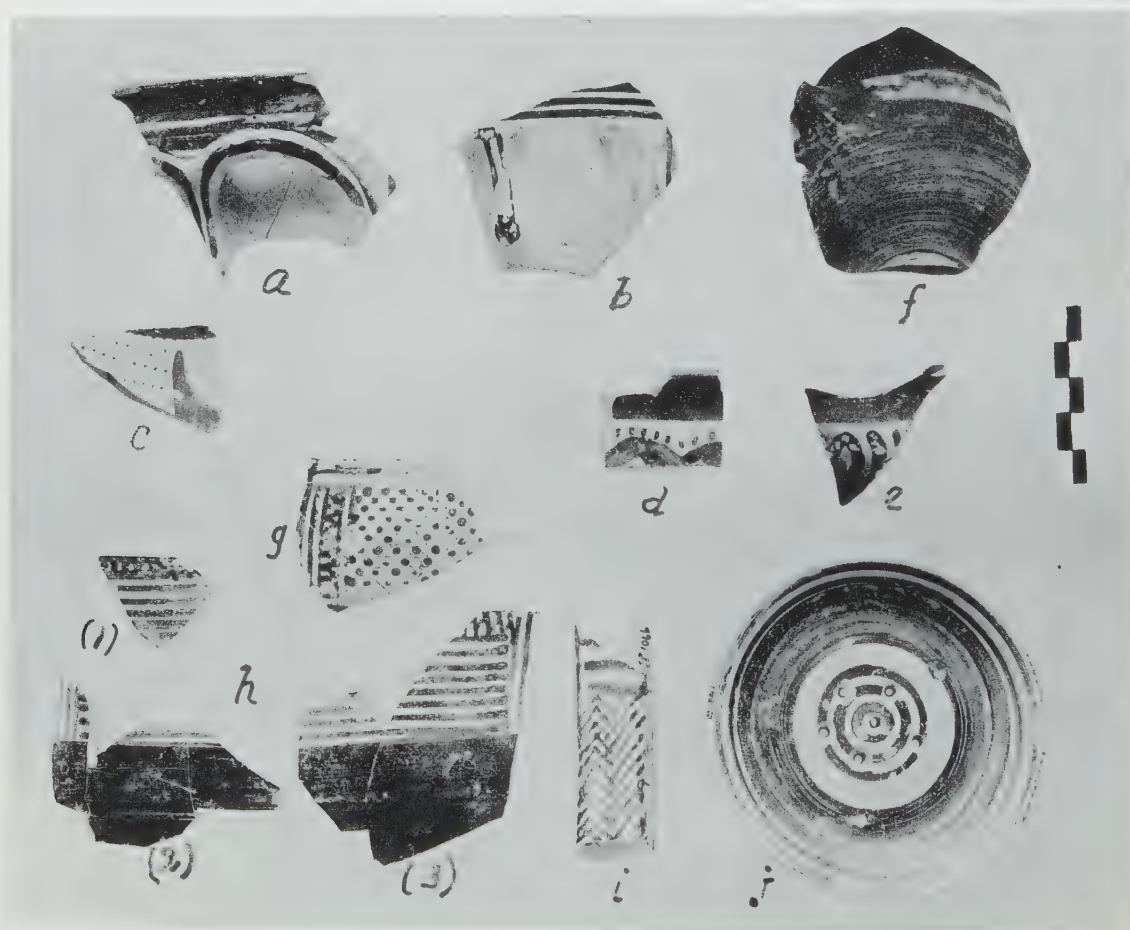
c. Piece of Decorated Shield Strap



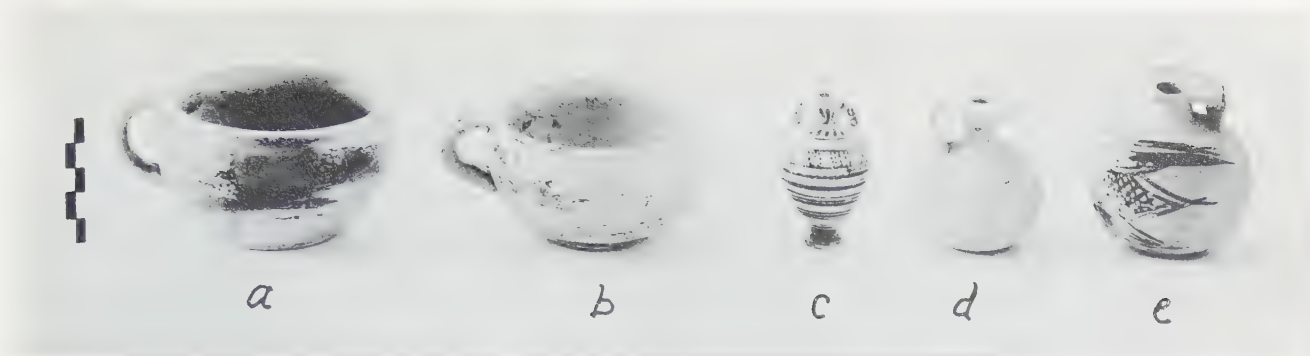
a. Four Early Helladic Vases



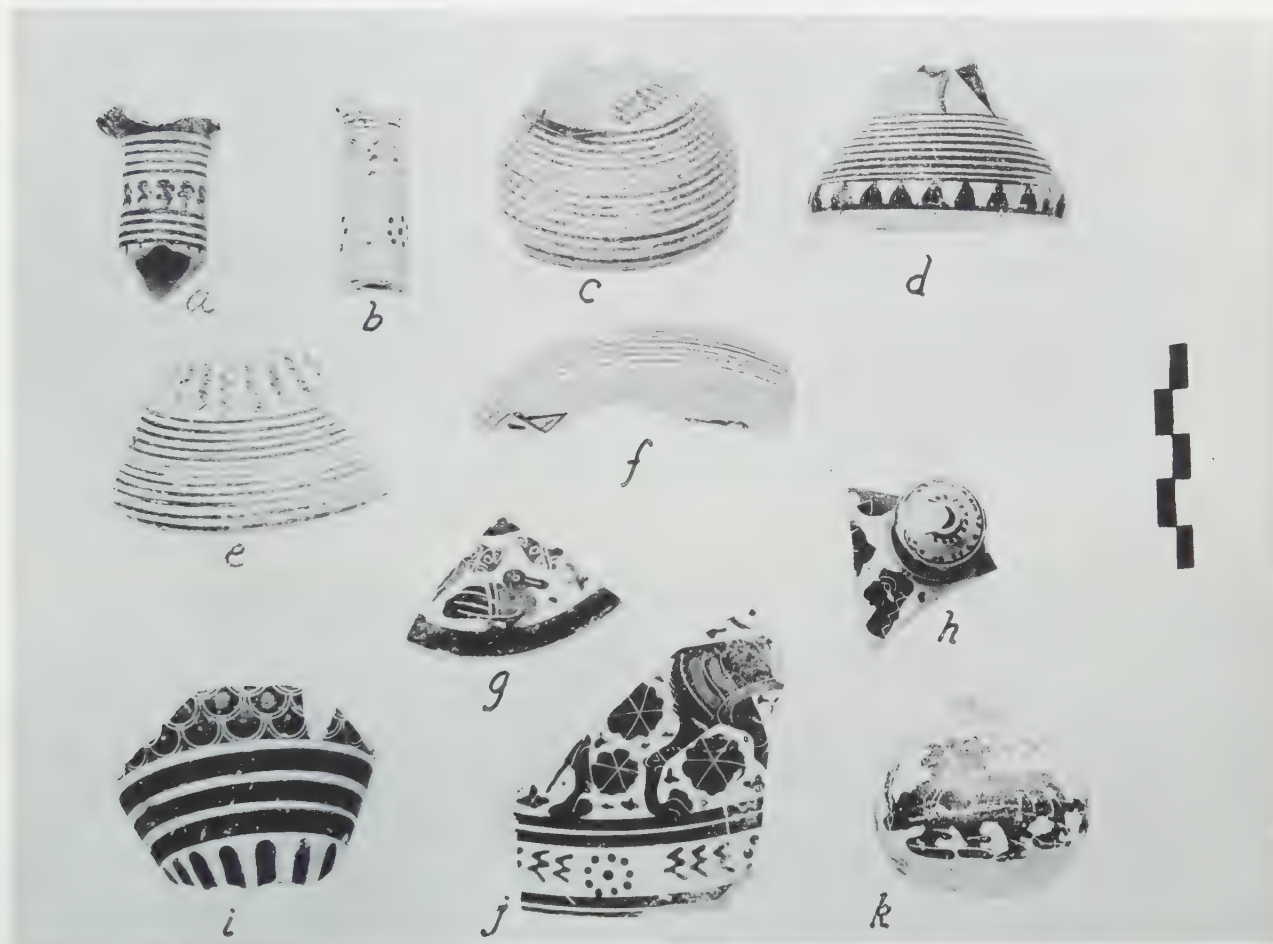
b. Four Early Helladic Vases



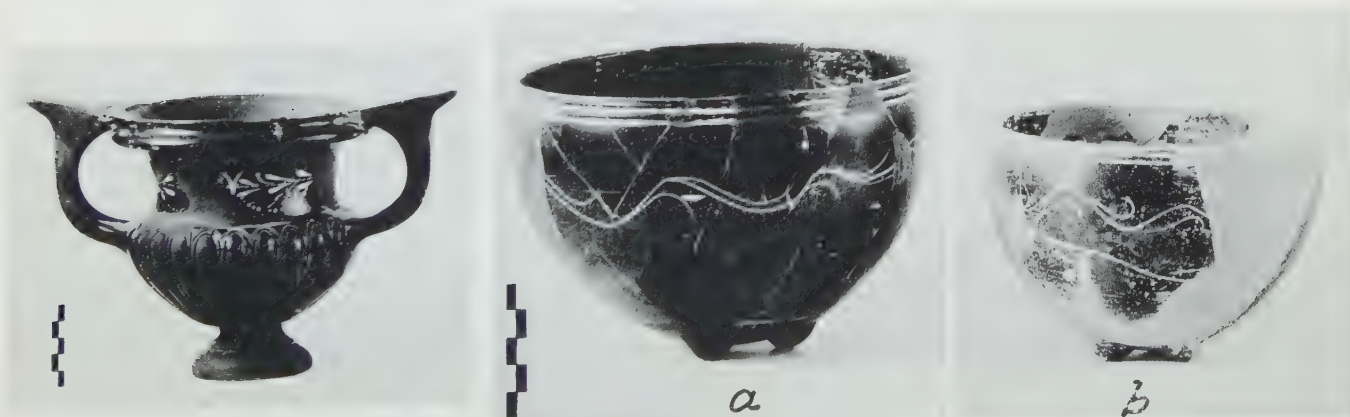
c. Mycenaean and Geometric Pottery



a. Subgeometric and Early Corinthian Vases



b. Protocorinthian and Early Corinthian Sherds



c. Hellenistic Kantharos from Rachi

d. Two Bowls from Rachi



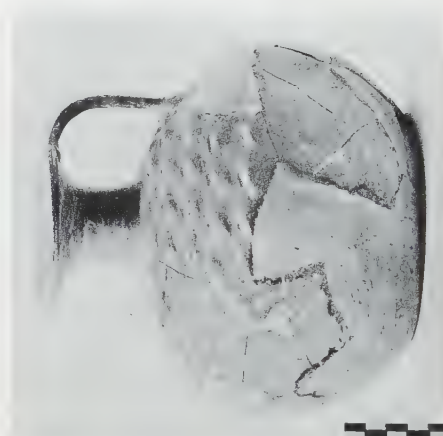
a. Panathenaic Amphora, Front Panel



b. Vase for Squeezing Grapes,
from Rachi



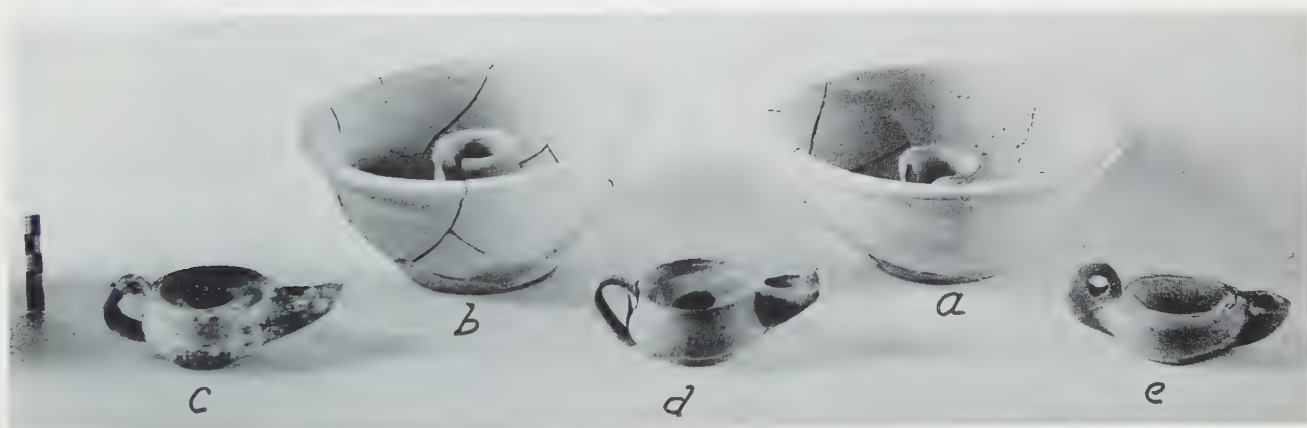
c. Casserole and Lid, from Rachi



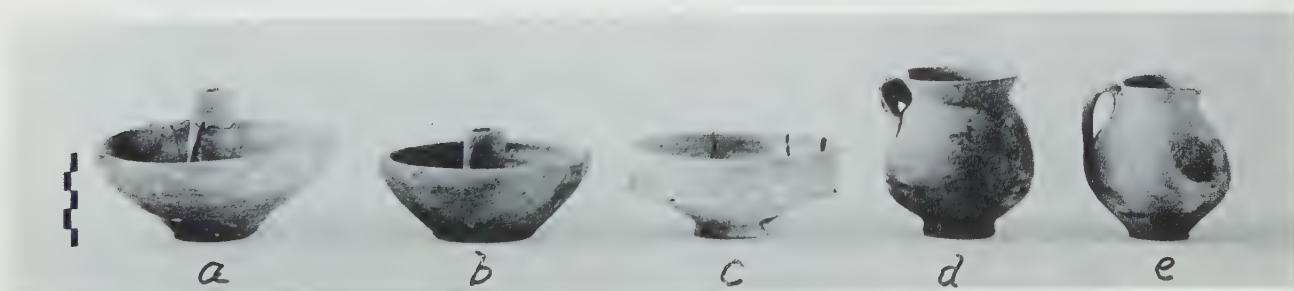
d. Pitcher of Blister Ware, from Rachi



a. Panathenaic Amphora, Rear Panel



b. Five Lamps from Palaimonion Area



c. Lamps and Vases from Sacrificial Pit

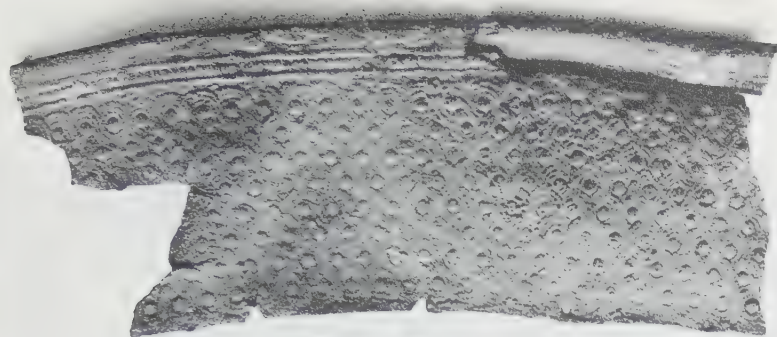


a. Kybele Lamp from Sacrificial Pit

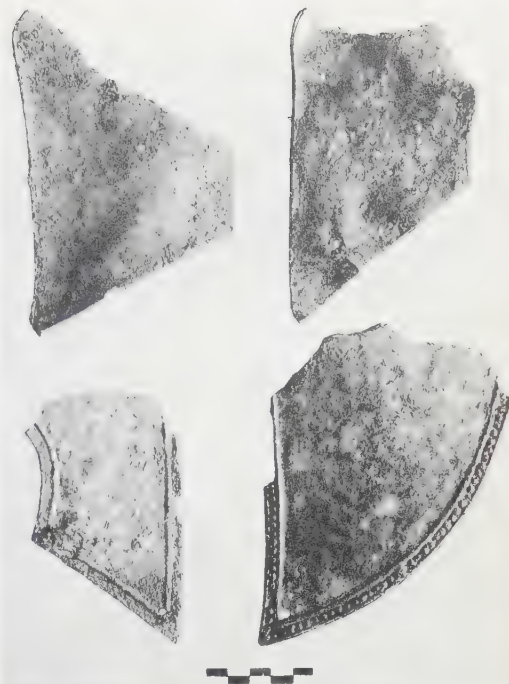


b. Nose Guards of Bronze Helmets

OSCAR BRONEER: EXCAVATIONS AT ISTHMA, THIRD CAMPAIGN, 1955-56



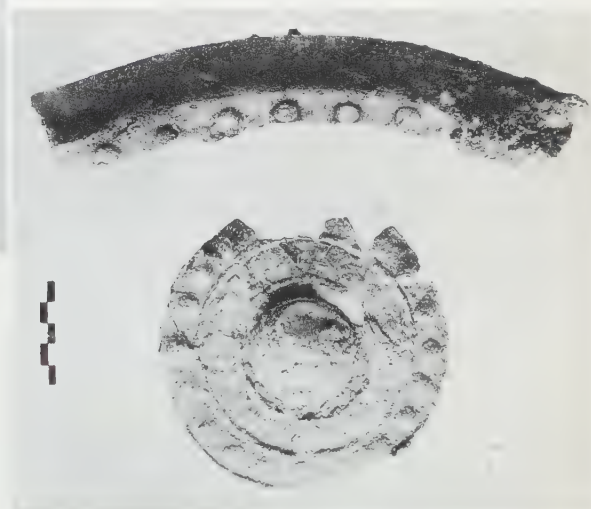
a. Rim Fragment of Bronze Shield



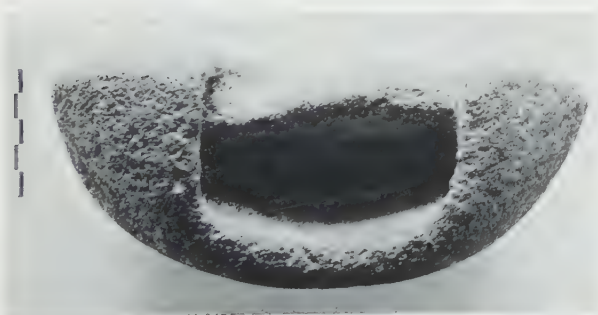
b. Cheek Pieces of Bronze Helmets



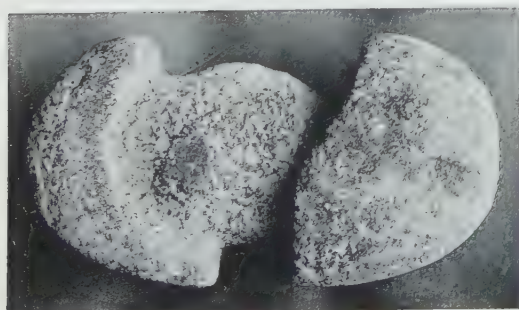
c. Seven Iron Spear Points and Three Bronze Spear Butts



d. Shield Boss and Rim Fragment of Bronze



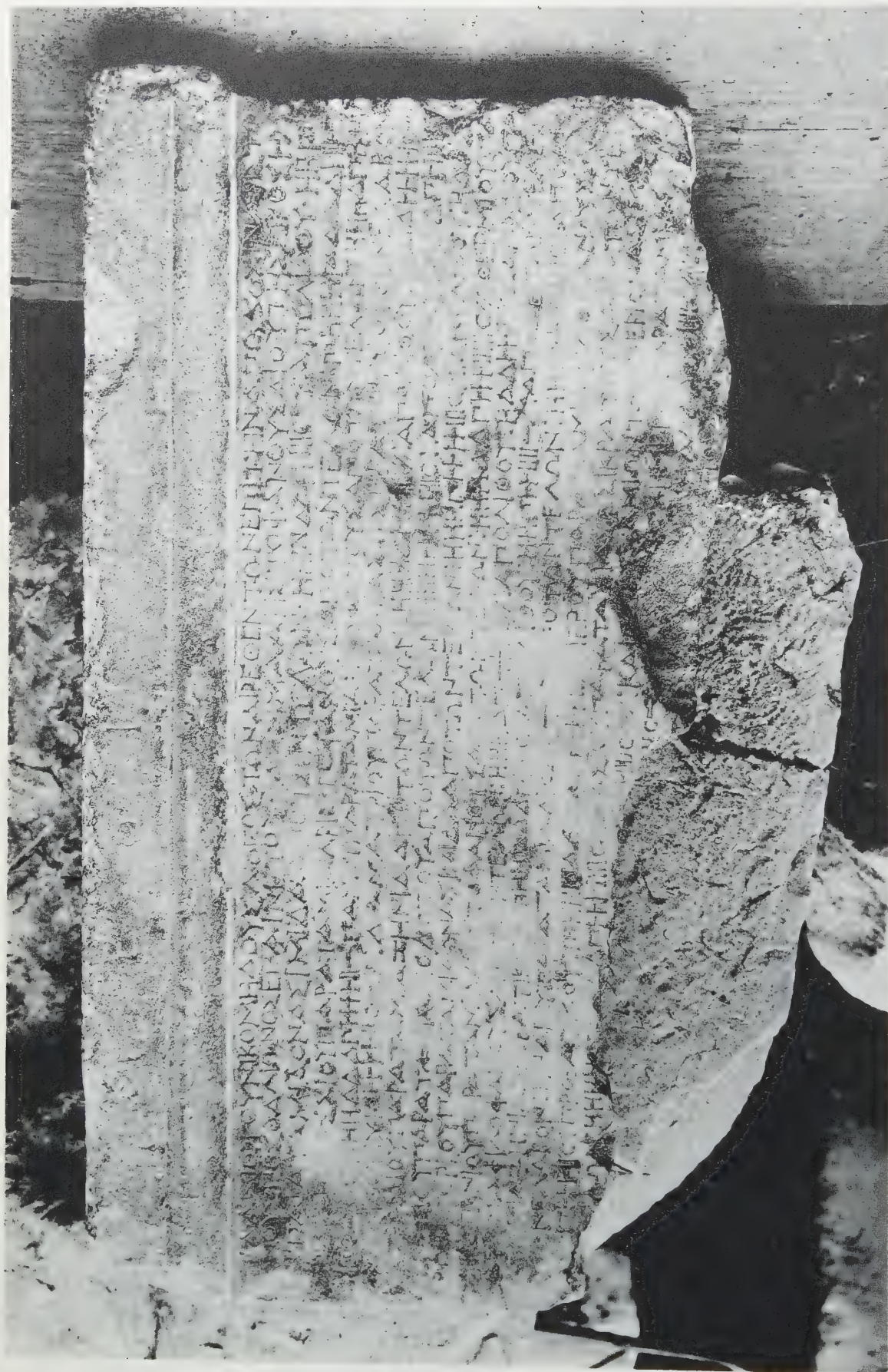
e. Stone Halter, Side View



f. Stone Halter, Top View



g. Trough-like Vessel, from Rachi



T. DAVID M. ROBINSON: A NEW *Logos* INSCRIPTION

EARLY HELLADIC CLAY SEALINGS FROM THE HOUSE OF THE TILES AT LERNA¹

(PLATES 19-29)

IN the course of the excavations by the American School of Classical Studies at Athens conducted at Lerna in 1954² a large group of clay sealings was found in the burnt debris of Room XI in the House of the Tiles.³ The number and variety of seal types represented and the circumstances of finding, in a closed deposit, make it appear useful to present an account of this material in advance of the general publication of the site. Several related pieces found elsewhere in the excavations receive notice here; a second considerable group of clay sealings found in 1955 in Room DM, near the House of the Tiles, will be fully published after further study.

The sealings are lumps of clay which were pressed when moist upon various boxes and jars, as the marks on the undersides of the lumps indicate, then stamped each with one or two seals upon the exposed surface, and allowed to dry. One hundred and forty-three fragments, representing perhaps one hundred and twenty-four different sealings and bearing impressions of seventy different seals, were found in this one room. The diameters of the seals range from 0.015 m. to 0.051 m., but the average is about 0.026 m., and approximately a third of the seals fall close to this figure in diameter. Color and type of joins between fragments indicate that the sealings were broken, possibly in the course of looting, before the fire took place which destroyed the House and preserved the sealings by baking them. The sealings with the objects which they sealed may possibly have been stored originally in the space immediately above Room XI and have fallen as the upper story collapsed, since the fragments were found not only on the floor, but throughout the debris. Room XI opens only on the outside of the House and seems therefore to be poorly adapted as a storeroom.

¹ This paper is part of a dissertation presented for the degree of Doctor of Philosophy in Yale University. It was completed in its present form in January, 1957.

² I should like to express my thanks to the director of the excavations, John L. Caskey, for permitting me to study the Lerna seal impressions and for his constant help and advice in the preparation of this catalogue. I should also like to thank Ann Perkins, Edith Porada, and N. Platon for their assistance and suggestions, and Dr. and Mrs. Styl. Yamalakis and Agnes Sakellariou for the opportunity to examine the Yamalakis collection of seals. The drawings of the seal designs, Plates 20-22, are by Piet de Jong, who has accurately clarified the obscurity of many of the impressions; in a few instances, noted in the text, he has used his experienced judgment in recording what he believes to have been the seal cutter's intentions. The photographs were taken by John L. Caskey, and the developing and printing were done by the photographic department of the Agora Excavations, under the supervision of Alison Frantz. The drawings of the sealings, Plate 19, were done by Lloyd Cotsen, with the exception of the fifth, which was drawn by Davina Best.

³ *Hesperia*, XXIV, 1955, p. 41.

The pottery discovered in the same debris consists principally of fragments of saucers and sauceboats in plain and slightly glazed wares. Early Helladic patterned ware occurs only in levels later than that of the House of the Tiles.

In addition to these sealings, another (36)⁴, of a distinctive seal and sealing type, was found in 1953 in the debris of Room VI. In 1955, an additional impression (48) of the seal and sealing type of 44-47 (S25) was found in Square E7 among stones of a ruined wall of earlier date than the House of the Tiles. Since there was some disturbance in this area on the edge of the mound, the impression may have come down from the upper level. It is catalogued here because its seal and sealing type clearly belong to the group from Room XI. Another impression (Inv. L4.320)⁵, from a deposit of pottery in Square F7, in a stratum one or two phases earlier than the House of the Tiles, will not be catalogued here. Its seal type, an unusually simple loop design, and its sealing type, a variety showing the marks of regular basketry, are both unlike those of the Room XI group.

One more impression should be mentioned in connection with this major group of sealings. A rectangular object of terracotta, perhaps a loomweight (Inv. L4.204, L. 0.057, W. 0.044, Th. 0.032), pierced lengthwise by two holes, was found in Room CA in Square F7, at the level 4.70 m. A.T., about that of sealing Inv. L4.320. On its sides are three very indistinct impressions made by a seal 0.017 m. in diameter. The design may possibly have been tripartite like that of Type S3.

No seals of the type or period represented by these impressions have been found at Lerna. Analogy with circular Cretan seals of similar size suggests that the seals which made the impressions were of ivory, or perhaps of wood; if so, the fire would account for their absence. It is also possible that the seals were of stone. Two seals of terracotta, crudely designed, were found in 1954 in later Early Helladic strata, associated with sherds of patterned ware; they are chiefly remarkable for their lack of resemblance to the impressions. One (Inv. L4.67) was found in the debris of the House of the Tiles or just above it in late Early Helladic context. It is a rough cone, bearing on its flat circular face (D. 0.027) an incised design consisting of two concentric circles, an irregular wavy line running between them, and a pellet in the center. The other seal (Inv. L4.218), from a bothros later than the House of the Tiles and over its central portion, has a ring handle, broken, and a rectangular face (L. 0.031) showing in high relief a double design of lines and rectangles.

Two further seals discovered in 1955 are dated to the late phase of the Early Helladic period or possibly to the earliest Middle Helladic. One (Inv. L5.378) of stone or very hard clay shaped like a pestle shows a very simple design of lines on its oval face; it was found in Square F7, in a street of later date than the House of the

⁴ *Hesperia*, XXIII, 1954, p. 24, pl. 10, c.

⁵ *Hesperia*, XXIV, 1955, p. 45.

Tiles. The other (Inv. L5.390) was found over the northeastern part of the House of the Tiles and is roughly conical, made of terracotta covered with a black glaze or slip. The design on its circular face is a simple and irregular version of the hatched quadrant.

The deposit of seal impressions found in Room DM during the season of 1955 is dated one or two phases earlier than the House of the Tiles.⁶ I have not yet been able to study this material, and it will not be catalogued here. A preliminary investigation has distinguished five different designs, including two with spirals (one bipartite, one tripartite), one with a rosette, one simple hatched quadrant (an oval seal), and one with three-leafed elements and a trefoil. (The three-leafed element is distinguished from the trefoil by the fact that its three leaves extend, like fingers, in the same direction). As a group these seal types are somewhat simpler in design than those of the main collection. One further seal impression, on an E. H. jar handle, has been found at Lerna; it is circular and of hatched quadrant design.⁷ The finding place is probably contemporary with the House of the Tiles, but the pot and the seal appear to be earlier.

The following catalogue is divided into two parts. The first describes the fragments of clay themselves under six headings (Sealing Types A, B, C, D, E, and Unclassified) according to the type of object to which the sealing was attached. Each sealing type is described in detail at the beginning of its section. As will be seen, the first two types include by far the largest number of fragments, but it is doubtful whether one may conclude that boxes and chests were more common than jars in the storerooms of the House of the Tiles. Considering the size of the poles of which they were constructed, one must assume that some of the boxes were large and perhaps carried more than one sealing (Type A). The number of containers is therefore uncertain, although the total number of sealings can be estimated. In any case it is unlikely that all of the containers represented by the sealings could have been stored in the small space above Room XI, and few fragments of jars were recovered in the debris. If they were kept in near-by storerooms, it is hard to explain the presence of the broken sealings in one place. The contents are unknown, having been completely burned; wine or oil may have been kept in the jars, and possibly grain or manufactured goods in the boxes.

The second part of the catalogue describes the seal types. From an analysis of the relative incidence of seal types and sealing types it seems clear that there was no connection between the seal design and the object which it marked. Fragments of Sealing Type A, for example, show impressions of fourteen different seals; design S3 occurs on fragments of Type A and of Type B. The table below illustrates this

⁶ *Hesperia*, XXV, 1956, pp. 168-169, pl. 44, e and f.

⁷ *Hesperia*, XXV, 1956, p. 169, pl. 44, d.

incidence for the entire collection. Occasionally impressions of two different seals, but never more than two, are found on the same sealing; these are also included in the table.

TABLE OF INCIDENCE

Sealings on which two different seal types occur are underlined.

	TYPE A	TYPE B	TYPE C	TYPE D	TYPE E	TYPE U
S1	1-6, <u>7</u> , <u>8</u>					
S2		37				
S3	35	38, 39				123, 124
S4						137
S5						125
S6			73			
S7	36					
S8						128
S9					98, 99	
S10						127
S11	10	40			100	
S12					101, 102	
S13		71				
S14			<u>74, 75</u>	<u>97</u>		
S15					115	
S16		41, 42				129
S17					103	
S18				89, 90		
S19					104, 117	
S20					105	
S21		43				
S22	11					
S23			76			
S24		44				
S25		<u>44</u> , 45, 46, 47, 48				
S26	12-20					
S27					118	
S28				91		130
S29			77			
S30						131
S31			87			
S32		<u>49, 50</u> <u>67</u>				<u>138</u> , 139

EARLY HELLADIC CLAY SEALINGS

85

	TYPE A	TYPE B	TYPE C	TYPE D	TYPE E	TYPE U
S33		51				
S34					106	
S35				92		
S36						132
S37		72				
S38		52				
S39		55 53, 54			107, 108	
S40		55, 56 53, 54	78		107, 108	
S41		49, 50				138
S42				93		
S43					119	
S44					109	
S45					110	
S46	21					
S47		57				
S48						133
S49	22, 23, 24					
S50					111, 112	134
S51	25, 26					
S52					113	
S53				94		
S54	27					
S55	28, 29, 21	58-65				
S56	30					
S57	7, 8, 9	66				
S58			79			
S59			74	97		
S60			86			
S61	31-34					
S62						135
S63					116	
S64			80, 81			
S65			82			
S66					114	
S67					120	
S68						136
S69						140
S70						141

CATALOGUE OF SEALINGS

TYPE A

Sealings of this type were circular lumps of clay, about 0.11 m. in diameter when complete, with a maximum thickness of 0.04 m., irregularly convex on the side which bears the impressions of the seal (Pl. 23 shows a photograph and Pl. 19 a drawing of two fragments of **13**, the most nearly complete example, and a drawing of **12** appears on Pl. 19). The other side was marked by two wide parallel grooves, apparently left by two smooth wooden poles (average diameter 0.07 m.) laid side by side; it was also marked by the impression of one or two lengths of cord which ran across the poles, sometimes diagonally, and bound them together. Since the cord followed, more or less, a straight line tangent to the tops of the poles (sagging only slightly between them owing to the pressure of the clay) and did not curve around them at the edge of the sealing, it can be assumed that there was a series of these poles, and, in fact, that they probably formed a large chest. On some of the sealings are preserved extremely fine marks running along the length of the grooves, perhaps representing the grain of the wood, but in every case the surface is considerably smoother than on sealings of Type B. The cords averaged 0.004 m. to 0.005 m. in diameter and appear to have been coarse but evenly twisted. Sometimes the sealing preserves the impression of several cords knotted together.

Thirty-six of the sealings can be assigned to Type A, including three fragments too small for certainty; **36** appears to be a variant. Fourteen seal types are represented. If those fragments which probably belonged to the same sealing are counted as one, the number of sealings is reduced to twenty-six or possibly less.

In the following catalogue of fragments only the largest dimension of each fragment is given. Length is measured on a line parallel with the grooves, and width is measured across them. The diameters of the poles are given only in cases in which they could be estimated with reasonable accuracy. The approximate fraction of the original sealing represented by the fragment is also given. Wherever long fine parallel marks could be seen along the grooves, their presence is recorded.

The clay is nearly always red and fairly fine, with some small stones and other particles, and is burnt quite hard. Only the exceptions to this general description and mottling of the clay in burning are recorded. At the end of each description the catalogue number of the seal type occurring on the fragment is given, as well as the number of complete or incomplete impressions, and their state of preservation.

1 (L4.401). Pl. 25.

L. pres. 0.062. D. of pole *ca.* 0.06. One-third preserved.

Partly gray. Impression of one cord. Fine parallel marks along the grooves. The sealing when complete was longer than it was wide.

The fragments **1** to **6** represent probably four, or perhaps as few as two, sealings.

Seal S1. One impression complete, two incomplete; clear.

2 (L4.402).

L. pres. 0.068. D. of poles *ca.* 0.07 and *ca.* 0.06. One-third preserved.

Partly gray. Impressions of two cords. Fine parallel marks along grooves. See **1**.

Seal S1. One impression complete, three incomplete; fairly clear.

3 (L4.403).

W. pres. 0.05. One-quarter preserved.

Dark gray. Impression of one cord and of the frayed end of another. The back of the sealing is worn, and only one groove is visible. This fragment and **4** probably belonged originally to the same sealing; see **1**.

Seal S1. One impression nearly complete, one incomplete; fairly clear.

4 (L4.404).

L. pres. 0.053. One-fifth preserved.

Dark gray. Impression of one cord. One groove shows slight parallel marks. This fragment and **3** probably belonged originally to the same sealing; see **1**.

Seal S1. One impression nearly complete, one incomplete; clear.

5 (L4.405).

L. pres. 0.053. Small fragment.

Dark gray. Impressions of one, perhaps two, cords. The sealing is very thin and shows only one groove. It probably belonged originally to the same sealing as **6**; see also **1**.

Seal S1. Three impressions incomplete; clear.

6 (L4.406).

W. pres. 0.048. Small fragment.

Two fragments; both dark gray. Impressions of two cords. Part of only one groove pre-

served. This fragment and **5** probably belonged originally to the same sealing; see also **1**.

Seal S1. One impression nearly complete, one incomplete; clear.

7 (L4.360). Pl. 25.

W. pres. 0.052. Small fragment.

Mostly gray. Impressions of two cords and some straws, which are probably the frayed ends of the cords. This fragment, **8**, and **9**, probably belonged originally to one sealing.

Seal S1. One impression incomplete; clear.

Seal S57. One impression nearly complete; clear.

8 (L4.358). Pl. 23.

W. pres. 0.062. One-half preserved.

Dark brown. Impressions of two cords. Fine parallel marks along grooves. See **7**.

Seal S1. One impression incomplete; clear. Identified by analogy with **7**.

Seal S57. One impression nearly complete, one incomplete; fairly clear.

9 (L4.359).

W. pres. 0.033. Small fragment.

Partly gray. Impression of two cords. Part of only one groove preserved. See **7**.

Seal S57. One impression incomplete; clear.

10 (L4.413). Pl. 25.

W. pres. 0.073. One-third preserved.

Dark gray. Impressions of two cords.

Seal S11. One impression complete, two nearly complete, two incomplete; fairly clear.

11 (L4.416). Pl. 26.

W. pres. 0.07. Two-thirds preserved.

Gray. Impressions of two cords knotted in the center of the sealing and another at right angles to them. The grooved side is worn. Part of the seal-impressed surface was flattened down while wet so that it obliterated any seal impressions in that part and distorted the adjoining impressions.

Seal S22. One impression complete, one incomplete; clear but distorted.

12 (L4.345). Pls. 19, 23, 26.

L. pres. 0.092. D. of the pole *ca.* 0.075. Intact, except for chipped edges.

Mostly gray. Impressions of two cords which crossed each other several times in a knot. A very little of the second groove is preserved at one edge.

Seal S26. Eight impressions complete, two nearly so; clear.

Hesperia, XXIV, 1955, pl. 22, e and f.

13 (L4.347). Pls. 19, 23, 26.

W. pres. 0.108. D. of poles *ca.* 0.06 and 0.07. Nearly complete.

Reconstructed from three fragments, of which (a) is partly gray, (b) slightly, and (c) nearly entirely. Impressions of two cords which were knotted at the center of the sealing and then ran out at one edge in two separate places.

Seal S26. Seven impressions complete, two nearly complete, one incomplete; clear.

Hesperia, XXIV, 1955, pl. 22, d, showing fragment (a) only.

14 (L4.362).

L. pres. 0.056. D. of pole *ca.* 0.08. One-third preserved.

Gray spot. Impression of one cord. Fine parallel marks along grooves. Fragments **14** to **20** derive probably from three sealings.

Seal S26. One impression complete, one nearly complete, three incomplete; clear.

15 (L4.363).

L. pres. 0.086. D. of pole *ca.* 0.08. Three-quarters preserved.

Two fragments, of which (a) is grayish and (b) pink. Impressions of two or more cords knotted in the center of the sealing. Fine parallel marks along grooves. See **14**.

Seal S26. Three impressions complete, two nearly complete, three incomplete; clear.

16 (L4.364).

L. pres. 0.071. D. of pole *ca.* 0.08. One-quarter preserved.

Slightly gray on surface. Impressions of three cords, one of which ran nearly at right angles to the others and crossed them in the center of the sealing. One groove is represented only by a small section; the other shows fine parallel marks. See **14**.

Seal S26. Three impressions nearly complete, three incomplete; clear.

17 (L4.365).

L. pres. 0.059. D. of pole *ca.* 0.07. One-third preserved.

Mostly gray. Impressions of two cords. Fine parallel marks along grooves. See **14**.

Seal S26. Three impressions nearly complete, two incomplete; fairly clear.

18 (L4.366).

W. pres. 0.073. One-third preserved.

Impressions of two cords, one at right angles to the other, and knotted in the center of the sealing. Little of the grooves is preserved; fine parallel marks are visible on one. See **14**.

Seal S26. Four impressions nearly complete, one incomplete; fairly clear.

19 (L4.367).

L. pres. 0.075. D. of poles *ca.* 0.06 and *ca.* 0.05. Two-thirds preserved.

Partly gray. Impressions of two cords. Fine parallel marks along grooves. See **14**.

Seal S26. One impression complete, two nearly complete, one incomplete; clear.

20 (L4.368).

W. pres. 0.046. Small fragment.

Partly gray. Impressions of two cords at right angles to each other and knotted in the

center of the sealing. Very little of the grooves preserved. See **14**.

Seal S26. One impression complete, one incomplete; fairly clear.

21 (L4.346). Pl. 28.

L. pres. 0.065. W. pres. 0.075. D. of poles *ca.* 0.06 and *ca.* 0.07. Two-thirds preserved.

Dark gray. Impressions of two cords which cross in a knot. Very fine parallel marks along grooves.

Seal S46. Two impressions complete, two nearly complete; clear.

Seal S55. Two impressions complete, two incomplete; clear.

Hesperia, XXIV, 1955, pl. 22, h.

22 (L4.389).

W. pres. 0.069. D. of pole *ca.* 0.075. One-third preserved.

Dark gray. Impressions of two or more fine cords knotted together. Fine parallel marks along grooves. This fragment and **23** probably belonged to one sealing; **24** may possibly have been part of it also.

Seal S49. One impression complete, five incomplete; fairly clear.

23 (L4.390). Pl. 28.

W. pres. 0.046. Small fragment.

Dark gray, one lighter spot. Impressions of three fine cords, one crossing the others at right angles. Part of one groove preserved, with fine parallel marks. See **22**.

Seal S49. One impression nearly complete; clear.

24 (L4.391).

W. pres. 0.06. One-third preserved.

Light gray, not burnt very hard. Underside worn, but grooves visible, and impression of one fine cord. See **22**.

Seal S49. Three impressions incomplete; clear.

25 (L4.384). Pl. 28.

L. pres. 0.04. Small fragment.

Dark gray, fairly hard. Impression of one cord. Part of one groove preserved. This fragment and **26** probably belonged originally to one sealing.

Seal S51. One impression incomplete; clear.

26 (L4.385).

L. pres. 0.051. One-quarter preserved.

Dark gray, fairly hard. Impression of one cord, parts of both grooves. See **25**.

Seal S51. Two impressions incomplete; one clear, one worn.

27 (L4.386). Pl. 28.

W. pres. 0.061. One-third preserved.

Partly gray. Impressions of two cords.

Seal S54. One impression complete, one nearly complete, one incomplete; fairly clear.

28 (L4.370).

W. pres. 0.046. Small fragment.

Partly gray. Impressions of two cords. Part of one groove preserved. This fragment and **29** may have belonged originally to one sealing.

Seal S55. Two impressions incomplete; indistinct.

29 (L4.371).

L. pres. 0.044. One-sixth preserved.

Dark gray. Impressions of two cords at right angles to each other. See **28**.

Seal S55. One impression nearly complete, three incomplete; indistinct.

30 (L4.387). Pls. 23, 28.

L. pres. 0.074. Complete except for a few chips.

Two fragments, of which (b) is gray and (a) partly gray. Impressions of two cords with frayed edges, knotted in the center of the sealing.

Seal S56. Four impressions nearly complete, two incomplete; fairly clear.

31 (L4.445).

W. pres. 0.069. D. of each pole *ca.* 0.07. One-third preserved.

Partly gray. Impressions of two or more cords knotted together. Fine parallel marks along grooves. This fragment and **32** may have belonged originally to one sealing.

Seal S61. Two impressions complete, two incomplete; clear.

32 (L4.446). Pl. 29.

L. pres. 0.076. D. of poles *ca.* 0.07 and *ca.* 0.08. One-half preserved.

Partly gray. Impression of two cords. Fine parallel marks along grooves. See **31**.

Seal S61. One impression complete, one nearly complete, two fragmentary; clear.

33 (L4.447).

L. pres. 0.076. D. of pole *ca.* 0.075. One-third preserved.

Partly gray. Impressions of two thick cords, one crossing the other diagonally. Faint fine parallel marks along the better preserved groove. This fragment and **34** may have belonged originally to one sealing.

Seal S61. Two impressions complete, two nearly complete, one incomplete; clear.

34 (L4.448)

L. pres. 0.057. One-quarter preserved.

Dark gray. Impressions of two cords at right angles. Part of one groove preserved. See **33**.

Seal S61. One impression nearly complete; clear.

35 (L4.410). Pl. 25.

W. pres. 0.065. One-third preserved.

Gray. Underside much worn, no clear evidence of cords. Attribution to Type A not certain, but likely.

Seal S3. Three impressions incomplete; clear.

36 (L3.10). Pls. 23, 25.

L. pres. 0.08. Three-quarters preserved.

Light red. Impression of one cord which encircled only one of the poles, over the covering. The back of the sealing shows the two parallel grooves usual in Type A, but these grooves are marked lengthwise with long noticeable ridges crossed by slighter ones. The marks suggest that the poles were covered with a heavy woven cloth before sealing.

Seal S7. One impression complete, five incomplete; clear.

Hesperia, XXIII, 1954, pl. 10, c. Found in the debris of the House of the Tiles, Room VI.

TYPE B

We have no complete specimens of this type. From the numerous fragments it is apparent that the average sealing was a conical lump of clay with a maximum height of 0.05 m. and a maximum diameter of 0.085 m. This clay rested on a flat surface and encircled a peg which projected at right angles from the surface and was bound round with a cord at its lower end (Pl. 19). The seal impressions covered the entire exposed surface of the sealing. Both the flat surface and the peg have left in the clay the marks of fine parallel lines resembling the grain of wood. The peg itself seems to have been slightly broader at its attached, or lower, end. (The best preserved example, **43**, Pl. 19, shows an upper diameter of 0.027 m., somewhat larger than average, and a lower diameter of *ca.* 0.035 m. It is clear from this example and from several others that the sealing did not cover the end of the peg, and that therefore

we do not know how the peg terminated). The marks of cords, similar to those on examples of Type A, represent one cord wound usually two or three times around the lower end of the peg and then running through the sealing to the outside. In some cases the impression of the frayed end of the cord is visible in the flat side of the sealing (43). The peg seems to have provided a fastening place for the cord which secured a wooden box. The simple type of clay sealing wrapped around a cord was not in use, and a sealing merely pressed against the box, over a cord, might have been removed and replaced unbroken. (It is possible that sealings such as 129 may represent the latter type, but all examples are fragmentary).

In our collection are thirty-six fragmentary sealings of Type B including five uncertain examples; they may represent thirty or fewer sealings if one takes into account the fact that some fragments may come from the same sealing. Eighteen seal types are represented.

In the following catalogue, any dimensions which can be considered complete are given; otherwise only the maximum dimension is recorded. Height is measured on a line perpendicular to the flat surface, and width is measured along that surface. The approximate fraction of a complete sealing represented by each fragment is recorded, and also, where measurable, the upper and lower diameters of the peg as preserved at a certain height above the base. The color and preservation of the clay are given only as they vary from the usual hard red state.

37 (L4.419). Pl. 25.

W. pres. 0.055. Upper D. of peg *ca.* 0.024. One-sixth preserved.

Mostly dark gray. Impressions of three lengths of thick cord which overlapped each other and cut deeply into the clay. None of the flat surface preserved. Clay did not cover top of peg.

Seal S2. Five impressions incomplete; clear.

38 (L4.409).

W. pres. 0.066. Upper D. of peg *ca.* 0.023, at *ca.* 0.035 above base. One-quarter preserved.

One gray spot. Impressions of two lengths of cord which encircled the peg just above its base; one end of the cord ran towards and through the outer surface of the sealing. A few parallel marks on the flat surface. This fragment and 39 may have belonged originally to one sealing.

Seal S3. Two impressions nearly complete, four incomplete; clear.

39 (L4.411).

W. pres. 0.041. Upper D. of peg *ca.* 0.023. Small fragment.

Dark gray. Bottom part including flat surface missing. Impression of one cord. Parallel marks along the peg impression. Clay did not cover top of peg. See 38.

Seal S3. One impression nearly complete, two incomplete; clear.

40 (L4.414).

W. pres. 0.032. Small fragment.

Partly gray. Impressions of two lengths of cord at a short distance above the base of the peg. Parallel marks on the flat surface.

Seal S11. One impression nearly complete, two incomplete; fairly clear.

41 (L4.398).

W. pres. 0.032. Small fragment.

Partly gray. Impressions of two lengths of cord. Base of fragment missing. This fragment and **42** may have belonged originally to one sealing.

Seal S16. Two impressions incomplete; fairly clear.

42 (L4.400).

W. pres. 0.049. Small fragment.

Partly gray. Inside worn, no peg impression, one cord impression. Parallel marks on flat surface. See **41**.

Seal S16. Two impressions incomplete; clear.

43 (L4.444). Pls. 19, 23, 26.

W. pres. (sealing D.) 0.082. Complete height 0.052. Upper D. of peg 0.027, at 0.05 above base, lower D. *ca.* 0.035. Two-thirds preserved.

Two fragments, of which (a) is gray with a buff streak, and (b) dark gray. Impressions of three lengths of cord beginning on a diagonal at the base of the peg. The impression of the frayed end of the cord is visible in the flat surface of the sealing; the other end runs through to the outside of the sealing at 0.015 from base. Parallel marks on flat surface. Clay did not cover top of peg.

Seal S21. Four impressions nearly complete, four incomplete; all but one clear.

44 (L4.437). Pls. 23, 26.

H. pres. 0.042. Upper D. of peg *ca.* 0.02 at 0.035 above base. One-eighth preserved.

Partly gray. Impressions of four lengths of cord which encircled the peg at the base; the lowest part of the cord ran towards and through the outer surface of the sealing. Parallel lines on flat surface.

Seal S24. One impression nearly complete, two incomplete; clear.

Seal S25. One impression nearly complete, two incomplete; clear.

45 (L4.434). Pls. 19, 23.

W. pres. (sealing D.) 0.083. H. pres., nearly complete, 0.049. Upper D. of peg 0.02, at 0.047 above base, lower D. with cords *ca.* 0.05. One-half preserved.

Two fragments, of which (a) is dark gray, and (b) red. Impressions of three lengths of cord, one of which crossed another diagonally; they encircled the peg a short distance above its base. Clay did not cover top of peg. This fragment and **46** probably belonged originally to the same sealing; **47** was possibly a part as well.

Seal S25. Six impressions nearly complete, eight incomplete; fairly clear.

46 (L4.435).

H. pres. 0.034. Small fragment.

Partly gray. Impressions of two lengths of cord which encircled the peg at its base; the lower length ran through to the outer surface of the sealing. See **45**.

Seal S25. One impression nearly complete, two incomplete; clear.

47 (L4.436).

W. pres. 0.057. One-quarter preserved.

Very brittle. Impression of two lengths of cord. Base not preserved below cord mark. See **45**.

Seal S25. One impression complete, one nearly complete, three incomplete; clear.

48 (L5.1). Pl. 26.

H. pres. 0.043. One-eighth preserved.

Clay partly buff, surface dark gray. Impressions of five lengths of cord. Fine marks on the flat surface and faintly on the peg impression.

Seal S25. One impression complete, four incomplete; clear.

49 (L4.456). Pl. 27.

H. pres., nearly complete, 0.051. One-fifth preserved.

Dark gray. Impressions of two lengths of cord at a short distance above the base of the peg. Parallel marks on flat surface and on peg impression. Clay did not cover top of peg. This fragment and **50** probably belonged originally to one sealing, of which **67** may possibly also have been a part.

Seal S32. Two impressions incomplete; clear.

Seal S41. One impression complete; indistinct but identified by analogy with **50**.

50 (L4.457). Pl. 27.

W. pres. 0.041. One-eighth preserved.

Dark gray. Impressions of two lengths of cord at a short distance above the base of the peg. Flat surface worn. See **49**.

Seal S32. One impression incomplete; fairly clear.

Seal S41. One impression nearly complete; fairly clear.

51 (L4.442). Pl. 27.

W. pres. 0.036. Upper D. of peg *ca.* 0.025 at 0.02 above base. Small fragment.

Dark gray. Impressions of three lengths of cord which encircled the peg immediately above its base. Parallel marks on the flat surface.

Seal S33. One impression nearly complete; clear.

52 (L4.430). Pl. 27.

H. pres. 0.055. Upper D. of peg *ca.* 0.02 at *ca.* 0.05 above base. One-fifth preserved.

Dark gray. Impressions of two lengths of cord which encircled the peg a short distance above its base. Clay did not cover top of peg.

Seal S38. One impression nearly complete, four incomplete; clear.

53 (L4.352). Pl. 27.

W. pres. 0.074. One-third preserved.

Partly gray. Impressions of four lengths of cord which begin directly at the base of the peg. Parallel marks on the flat surface. None of peg impression preserved.

Seal S39. One impression nearly complete, one incomplete; clear.

Seal S40. One impression nearly complete, one incomplete; worn.

54 (L4.354).

H. pres. 0.039. Small fragment.

Dark gray. Impressions of three lengths of cord. Base not preserved.

Seal S39. One impression incomplete; clear.

Seal S40. One impression incomplete; clear.

55 (L4.355).

H. pres. 0.042. Upper D. of peg *ca.* 0.024. Small fragment.

Impressions of two lengths of cord, one of which runs through the sealing to the outer surface. Base missing. Clay did not cover top of peg. This fragment and **56** may have belonged originally to one sealing.

Seal S39. Two impressions incomplete, clear.

Seal S40. One impression nearly complete; clear.

56 (L4.356).

W. pres. 0.056. Upper D. of peg *ca.* 0.022 at 0.037 above base. One-fifth preserved.

Two fragments, both partly gray. Impressions of two lengths of cord which encircled the peg a short distance above its base. Parallel marks on flat surface and on peg groove. See **55**.

Seal S40. One impression nearly complete, two incomplete; indistinct.

57 (L4.439). Pl. 28.

W. pres. 0.064. One-quarter preserved.

Dark gray. Impressions of four lengths of cord at different depths in the clay; the cord encircled the peg at a point 0.018 above its base. Clay did not cover top of peg.

Seal S47. Two impressions nearly complete, two incomplete; fairly clear.

58 (L4.369). Pl. 28.

W. pres. 0.061. H. pres., nearly complete, 0.047. Upper D. of peg *ca.* 0.02 at 0.045 above base, lower D. 0.026. One-quarter preserved.

Dark gray. Impressions of two lengths of cord which encircled the peg a short distance above its base. The lower end of the cord ran through to the outside surface of the sealing, and an impression of the other end, cut off, is visible in the flat surface. Parallel marks on flat surface and peg impression. Clay did not cover top of peg. Fragments **58** to **65** were probably parts originally of a very few sealings, probably four, perhaps as few as two.

Seal S55. One impression complete, two nearly complete, one incomplete; fairly clear.

59 (L4.372).

W. pres. 0.051. Lower D. of peg *ca.* 0.03. One-fifth preserved.

Impressions of two lengths of cord crossing each other at a short distance above the base of the peg. Slight parallel marks on flat surface. See **58**.

Seal S55. One impression nearly complete, one incomplete; fairly clear.

60 (L4.373).

W. pres. 0.06. Lower D. of peg *ca.* 0.03. One-fifth preserved.

Mostly gray. Impressions of two lengths of cord which encircled the peg at a short distance above its base. Slight parallel marks on flat surface. See **58**.

Seal S55. Two impressions nearly complete, two incomplete; fairly clear.

61 (L4.374).

W. pres. 0.048. One-fifth preserved.

Dark brown. Impressions of two lengths of cord which encircled the peg at a short distance above its base. Slight parallel marks on flat surface. See **58**.

Seal S55. One impression nearly complete, two incomplete; indistinct.

62 (L4.375).

W. pres. 0.056. One-quarter preserved.

Dark gray. Impressions of five lengths of cord which began immediately at the base of the peg. Parallel marks on flat surface. See **58**.

Seal S55. One impression complete, one nearly complete, two incomplete; fairly clear.

63 (L4.376).

W. pres. 0.063. One-quarter preserved.

Dark gray. Impressions of three lengths of cord which encircled the peg shortly above its base. Parallel marks on flat surface. See **58**.

Seal S55. Four impressions incomplete; indistinct.

64 (L4.377).

H. pres. 0.044. Upper D. of peg *ca.* 0.02, at 0.044 above base, lower D. *ca.* 0.024. One-fifth preserved.

Mostly gray. Impressions of two lengths of cord which encircled the peg a short distance above its base. Parallel marks on flat surface and on peg impression. Clay did not cover top of peg. See **58**.

Seal S55. Two impressions nearly complete, three incomplete; clear.

65 (L4.378).

W. pres. 0.037. Small fragment.

Mostly dark gray. Back too worn to show impression of peg, but some evidence for two cords, one which ran out the edge of the sealing just above the base of the peg. See **58**.

Seal S55. One impression nearly complete, one incomplete; clear.

66 (L4.348). Pls. 23, 28.

W. pres. (D. of sealing) 0.091. One-half preserved.

Two fragments, both dark gray. Impressions of four lengths of cord which began immediately at the base of the peg. Parallel marks on flat surface.

Seal S57. Two impressions complete, two nearly complete, seven incomplete; fairly clear.

67 (L4.460).

W. pres. 0.039. Upper D. of peg *ca.* 0.02, at 0.034 above base. One-fifth preserved.

Dark gray. Impressions of two lengths of cord which began immediately above the base of the peg. The lower end of the cord ran through to the outside surface of the sealing. Parallel marks on the peg impression and the flat surface. This fragment may possibly have belonged originally to the same sealing as **49** and **50**.

Seal probably S32. One impression very incomplete; fairly clear.

68 (L4.478).

W. pres. 0.04. Lower D. of peg *ca.* 0.025. One-eighth preserved.

Dark gray. Impressions of two lengths of cord which encircled the peg diagonally, beginning a short distance above its base. Flat surface worn; a few parallel marks here and on the peg impression.

No seal impression.

69 (L4.479).

W. pres. 0.037. One-eighth preserved.

Dark gray. Inside worn; faint impressions of

two cords beginning immediately above base. A few parallel marks visible on flat surface.

No seal impression.

70 (L4.480).

H. pres. 0.034. Small fragment.

Gray. Impressions of four lengths of cord which began immediately above the base of the peg. Little of flat surface, none of peg impression, preserved.

No seal impression.

71 (L4.433). Pl. 25.

W. pres. 0.038. Fragment.

Partly gray. Part of flat surface preserved, marked with parallel lines, and impression of one cord. Attribution to Type B probable.

Seal S13. One impression nearly complete, three incomplete; clear.

72 (L4.429). Pl. 27.

W. pres. 0.044. Fragment.

Dark gray. Impression of two lengths of cord, one of which headed to outer edge of sealing. Small section of peg impression. Attribution to Type B probable.

Seal S37. Two impressions nearly complete, one incomplete; clear.

TYPE C

In this type of sealing the clay was used to encircle the neck of a jar, and consequently bears, in the best preserved examples, the imprint of the profile of the pot from the rim to a point on the shoulder. This point varies but sometimes reaches nearly 0.04 m. from the base of the neck. The profiles are by no means uniform. **74** (Pls. 19, 23), the best preserved specimen, bears the impression of the neck of a jar measuring 0.04 m. in height, while **76** (Pls. 19, 23, 26) shows only a slight neck 0.012 m. high. Some necks were nearly cylindrical and others had a considerable flare. The diameters, however, measured at the narrowest point of the neck, do not vary so widely; they average about 0.10 m., and indicate that the vessels were of moderate size, about that of an ordinary E. H. water jar (e. g. *Tiryns*, IV, figs. 16 and 17; *Hesperia*, XXV, 1956, pl. 46, j). The purpose of the sealing is doubtful. There is no evidence of cords, nor of cloth or any other material which might have bound

the open mouth of the jar and overlapped the rim. As the sealing tapers off at the edge of the rim, any connection with a sealing over the jar mouth would be tenuous. However, unless one of these methods of securing the jar was used, the clay around the neck would have been a mere collar with no value as a sealing. The scarcity of examples is a handicap in the solution of this problem. There are sixteen fragments of sealings of this type (including three whose attribution to the type is uncertain), which probably represent fourteen original sealings. Eleven seal types appear.

The maximum dimension is recorded in each case; the height is measured vertically in relation to the jar, and the width horizontally. The diameter of the neck and its height are given in those cases in which they could be measured. The color and texture of the clay are recorded when they vary from the usual state.

73 (L4.422). Pl. 25.

W. pres. 0.04. D. of neck *ca.* 0.10. Small fragment.

Light to dark gray. Jar neck nearly cylindrical, slightly flaring, like **78** or **80**.

Seal S6. One impression nearly complete, one incomplete; fairly clear.

74 (L4.463). Pls. 19, 23.

W. pres. (D. of sealing) 0.161. D. of neck 0.097. Jar neck height 0.04. One-half preserved.

Three fragments, of which (a) and (c) are dark gray. Jar neck flaring. The sealing seems not to have covered the open mouth of the jar. **75** is probably another fragment of this sealing.

Seal S14. One impression complete, three incomplete; indistinct.

Seal S59. One impression complete and very indistinct, two incomplete and fairly clear.

75 (L4.461). Pl. 26.

W. pres. 0.075. One-eighth preserved.

Partly light gray. Jar neck flaring. This fragment probably belongs to the sealing represented by **74**.

Seal S14. Two impressions incomplete; indistinct.

76 (L4.438). Pls. 19, 23, 26.

W. pres. 0.052. D. of neck *ca.* 0.12. H. of neck 0.012. One-eighth preserved.

Gray spot. Jar neck was short and straight.

Seal S23. One impression nearly complete, one incomplete; fairly clear but worn.

77 (L4.428). Pl. 27.

H. pres. 0.04. Small fragment.

Partly dark gray, mostly light. Jar neck flaring, as **79**.

Seal S29. One impression incomplete; clear.

78 (L4.357). Pls. 19, 23, 27.

W. pres. 0.063. D. of neck *ca.* 0.12. One-fifth preserved.

Powdery clay with a hard surface, white to buff. Jar neck fairly cylindrical.

Seal S40. One impression nearly complete, two incomplete; fairly clear.

79 (L4.451). Pls. 19, 28.

W. pres. 0.061. D. of neck *ca.* 0.10. Jar neck height 0.031. One-sixth preserved.

Partly dark gray. Jar neck flaring.

Seal S58. One impression nearly complete and very indistinct, four incomplete and clear.

80 (L4.468). Pls. 19, 29.

H. pres. 0.048. One-sixth preserved.

Buff-red. Jar neck cylindrical, somewhat

straighter than 78. This fragment and 81 probably belonged originally to the same sealing.

Seal S64. One impression incomplete; fairly clear.

81 (L4.469). Pl. 29.

H. pres. 0.036. Small fragment.

Partly gray. Jar neck cylindrical. This piece preserves impression of rim. See 80.

Seal S64. One impression very incomplete; fairly clear.

82 (L4.465). Pl. 29.

W. pres. 0.059. One-eighth preserved.

Dark gray. Jar neck slightly flaring, as 79.

Seal S65. One impression very incomplete; fairly clear.

83 (L4.483). Pl. 24.

W. pres. 0.064. D. of neck 0.09, height *ca.* 0.045. One-eighth preserved.

Two fragments, both partly gray. Jar neck flares slightly at top, as 78.

No seal impression.

84 (L4.484).

W. pres. 0.05. D. of neck *ca.* 0.10. H. of neck *ca.* 0.038. Small fragment preserved.

Soft clay, gray to buff. Jar neck flaring, as 79.

Seal impression very much damaged; one incomplete.

85 (L4.485).

W. pres. 0.044. D. of neck *ca.* 0.08. Small fragment preserved.

Dark gray. Jar neck flaring, as 79.

No seal impression.

86 (L4.427). Pls. 19, 24, 29.

W. pres. 0.073. D. of neck *ca.* 0.10. One-fifth preserved.

Two fragments, both soft and dark gray. This fragment is a variant. The neck appears to have turned inward, and the rim was narrow and flat, at right angles to the pot. The curved bit of clay intruding in one place on the space which should have been occupied by the rim may possibly be the impression of a handle, or of a break in the rim. The whole sealing fragment looks rather as if it had been used on a cup instead of a jar, but it is possible that the wet clay may have become distorted at the time when it was being applied to the pot.

Seal S60. Three impressions nearly complete, one incomplete; fairly clear.

87 (L4.441). Pl. 26.

W. pres. 0.047. Small fragment.

Gray. The fragment is small and distorted, and preserves only a small piece of the impression of a straight rim.

Seal S31. One impression nearly complete, four incomplete; fairly clear.

88 (L4.482).

W. pres. 0.052. Uncertain fraction preserved.

Dark gray. Very little of the sealing is preserved, and the impression on the back is probably of the join between the neck and shoulder of a jar.

Seal impressions indistinct; two incomplete.

TYPE D

These sealings were clearly used to cover the mouths of jars. On their under surfaces they bear the circular impressions of rims whose diameters measure from 0.10 m. to 0.15 m., in other words, of jars of approximately the same size as those sealed with Type C sealings. Whether the two types could have occurred contiguously on the same pot is uncertain, since very little clay, and sometimes none at all, overlaps the rim in the preserved examples. There is some evidence for the closing of the jar

neck before sealing with clay; in the case of **92** (Pl. 24), a nearly perfect specimen, a firm square plug seems to have been inserted, while **93** and **94** (Pls. 19, 24) bear impressions of single cords which ran across the neck. There are only nine sealings and fragmentary sealings of Type D, and two of these are so worn that their ascription is not entirely certain. Seven seal types can be identified on pieces of Type D.

89 (L4.392). Pls. 24, 26.

L. pres. 0.065. D. of rim *ca.* 0.15. One-fifth preserved.

Powdery texture, partly buff, partly gray. Some smooth object, shape uncertain, seems to have been inserted in the open mouth before sealing. This fragment and **90** may have belonged originally to the same sealing.

Seal S18. Four impressions incomplete; fairly clear.

90 (L4.393).

L. pres. 0.05. Small fragment.

Pink. Underside smooth and fairly level, edges worn; by the analogy of the seal type, the fragment can be identified as belonging to Type D. It may have belonged originally to the same sealing as **89**.

Seal S18. Two impressions incomplete; fairly clear.

91 (L4.396).

L. pres. 0.05. *Ca.* one-sixth preserved.

Soft, yellow-buff. Small piece of rim impression preserved. Some straight-edged object was inserted into the neck of the jar.

Seal S28. Three impressions incomplete; indistinct.

92 (L4.423). Pls. 24, 27.

D. of sealing 0.109. Rim D. 0.102. Intact except for chipped edges.

Two fragments, both dark gray. The neck of the jar was filled with a solid square plug before sealing.

Seal S35. Two impressions complete, seven nearly complete, six incomplete; fairly clear.

93 (L4.452). Pls. 24, 27.

L. pres. 0.084. One-quarter preserved

Two fragments, buff to dark gray, brittle. On the back, the curving line of the rim impression stops abruptly at a straight edge. A cord seems to have crossed the open mouth of the vessel.

Seal S42. Four impressions nearly complete, two incomplete; indistinct.

94 (L4.379). Pls. 19, 24, 28.

L. pres. 0.081. D. of rim *ca.* 0.15. One-fifth preserved.

Gray in spots. Transverse impression, probably of a cord running across the mouth of the vessel.

Seal S53. Two impressions nearly complete, three incomplete; fairly clear.

95 (L4.474). Pls. 19, 24.

L. pres. 0.092. D. of rim *ca.* 0.12. One-third preserved.

Buff to dark gray. Underside quite smooth.

No seal impression.

96 (L4.475).

L. pres. 0.114. D. of rim *ca.* 0.14. One-third preserved.

Mostly dark gray.

Seal impression totally obscure; one complete, two incomplete.

97 (L4.462). Pl. 26.

L. pres. 0.078. One-third preserved.

Buff to dark gray. The back shows the impression of something smooth, but no rim impression is preserved. The fragment is probably to be attributed to Type D.

Seal S14. Two impressions incomplete; indistinct.

Seal S59. Four impressions incomplete; fairly clear.

TYPE E

This is a large and not very homogeneous group of sealings, most of which bear on one side the irregular impressions of reeds laid side by side. The reeds are occasionally broad and flat or form a level surface, but generally they are narrow and cut deeply into the clay at intervals. Usually the sealing is round and small, reaching a maximum width of 0.065 m., and it often shows the imprint of one or more cords which crossed at right angles to the reeds. Occasionally the cords passed through the clay at such a distance from the reeds that the one could not have bound the other directly. This and the fact that some sealings show impressions of reeds on two adjoining faces indicate that the object sealed was not flat but bent in some way. One specimen only shows reed impressions on one face and a straight rim profile on the second face, perpendicular to the first (**112**, Pl. 19); in this case the reeds may have been used as a covering for a box or other container. A few sealings rested on crudely-woven matting, while only one bears impressions of fairly regular and well-constructed basketry (**121**).

The total number of sealings in this group is twenty-five, including two or three worn specimens; this number probably represents twenty-four, or perhaps somewhat fewer, original whole sealings. There are nineteen seal types.

Only the maximum dimension is given. On incomplete circular sealings, length is measured on the chord of the circle.

98 (L4.420). Pl. 25.

L. pres. 0.053. Uncertain fraction preserved.

Partly gray. No impressions preserved on back. This fragment and **99** may have belonged originally to the same sealing.

Seal S9. One impression nearly complete, two incomplete; clear.

99 (L4.421).

L. pres. 0.048. One-sixth preserved.

Gray. Deep parallel impressions of reeds; possible impression of one cord, at a depth of 0.01 in the clay. See **98**.

Seal S9. One impression complete; worn.

100 (L4.415).

L. pres. 0.042. Small fragment.

Gray, dark gray patch. Impressions of two

cords at right angles to deep impressions of reeds; the two sets of impressions appear not to be in the same plane but at an angle to each other. This indicates that the sealed object was bent.

Seal S11. Two impressions incomplete; fairly clear.

101 (L4.431). Pl. 25.

L. pres. 0.065. One-third preserved.

Light to dark gray. Impressions of two cords crossed diagonally by another. Deep parallel impressions of reeds which were bound by the cords. This fragment and **102** probably belonged originally to the same sealing.

Seal S12. One impression complete, two incomplete; clear.

102 (L4.432).

L. pres. 0.049. One-quarter preserved.

Two fragments, both dark gray. Deep impressions of reeds and of one cord which crossed them diagonally. See **101**.

Seal S12. One impression nearly complete, one incomplete; clear.

103 (L4.399). Pl. 26.

L. pres. 0.041. Small fragment.

Dark gray. Impressions of reeds and of two cords which crossed them.

Seal S17. One impression incomplete; clear.

104 (L4.424). Pl. 26.

L. pres. 0.047. One-third preserved.

Dark gray. Deep impressions of reeds, at a depth of *ca.* 0.01 in the clay, and of one cord which crossed them. **104** and **117** may have belonged originally to the same sealing.

Seal S19. One impression nearly complete, three incomplete; clear.

105 (L4.470). Pl. 26.

L. pres. 0.035. One-quarter preserved.

Dark gray. Impressions of reeds and of two cords which crossed them.

Seal S20. One impression incomplete; clear.

106 (L4.443). Pl. 27.

L. pres. 0.048. One-quarter preserved.

Partly gray. Impressions of reeds, faint indications of cords which crossed them.

Seal S34. One impression incomplete; fairly clear.

107 (L4.349). Pls. 24, 27.

L. 0.061 (taken as resting on cords). W. 0.049. Nearly complete; one edge broken.

Partly gray. Impressions of four cords in the underside of the sealing. At right angles and more or less perpendicular to these impressions, on the edge of the sealing, are deep grooves left by reeds which continue on the

under edge of the sealing in roughly the same plane as the cord impressions.

Seal S39. One impression nearly complete, one incomplete; clear.

Seal S40. Two impressions nearly complete, two incomplete; clear.

Hesperia, XXIV, 1955, pl. 22, i.

108 (L4.353). Pl. 27.

L. pres. (nearly complete D.) 0.051. One-half preserved.

Gray in spots. Sealing was apparently cylindrical. Impressions of reeds on the underside and of three cords in the thickness of the fragment. The reeds continued upwards at an angle for a short distance into the thickness of the clay, and the lowest cord crossed directly above them. The large seal was impressed on the top of the sealing, and the small seal several times around the curved part.

Seal S39. One impression incomplete; clear.

Seal S40. Two impressions complete; clear.

109 (L4.453). Pl. 27.

L. pres. 0.04. One-half preserved.

Dark gray. Impressions of reeds on the underside and of two cords which crossed them. Very small sealing.

Seal S44. One impression incomplete; clear.

110 (L4.394). Pls. 24, 28.

W. pres. 0.045. One-third preserved.

Partly gray. Impressions of reeds, most parallel, a few at an angle. Top surface damaged.

Seal S45. One impression incomplete; clear.

111 (L4.382).

L. pres. 0.046. Small fragment.

Dark gray. Impressions of reeds. Seal impressed when surface of clay was very wet.

Seal S50. Two impressions incomplete; fairly clear.

112 (L4.383). Pls. 19, 24.

W. pres. 0.048. One-half preserved.

Partly gray. The fragment is triangular in section and preserves on one face the seal impressions, on another the marks of reeds, and on the third the impression of a straight smooth rim or edge, perhaps of a box. Seal impressed when surface of clay was very wet.

Seal S50. One impression nearly complete, two incomplete; indistinct.

113 (L4.380). Pls. 24, 28.

L. pres. 0.067. One-quarter preserved, if sealing was circular.

Gray in spots. Impressions of broad flat reeds more or less parallel to each other.

Seal S52. Three impressions incomplete; clear.

114 (L4.471). Pl. 29.

L. pres. 0.033. One-quarter preserved.

Buff. Impressions of straw-like reeds and of two cords which crossed them.

Seal S66. One small fragment of an impression; clear.

115 (L4.464). Pl. 26.

L. and W. pres. 0.042. Small fragment.

White to gray. A few faint impressions of reeds.

Seal S15. Two impressions incomplete; fairly clear.

116 (L4.449). Pl. 29.

L. pres. 0.051. Small fragment.

Partly gray. On the underside, only the impressions of two cords are preserved, but these and the size of the fragment make its attribution to Type E likely.

Seal S63. One impression nearly complete, two incomplete; clear.

117 (L4.425).

L. pres. 0.051. One-quarter preserved, if sealing was circular.

Mostly dark gray. Impression of rather ir-

regular matting, and faint impression of one cord which crossed above it, at *ca.* 0.007 in the clay. See **104**.

Seal S19. Three impressions incomplete; fairly clear.

118 (L4.440). Pls. 24, 26.

L. pres. (nearly complete D.) 0.049. One-third preserved.

Two fragments, both dark gray. Impression of fairly regular matting crossed by one or two cords knotted in the center of the sealing.

Seal S27. Two impressions nearly complete, two incomplete; clear.

119 (L4.351). Pls. 24, 27.

L. pres. 0.138. Nearly intact; edges chipped.

Buff top, underside gray and soft. The underside is worn but it seems to have been pressed on a fairly flat piece of matting which had apparently a small opening in it.

Seal S43. Two impressions complete, two nearly complete, five incomplete; clear.

120 (L4.473). Pl. 29.

W. pres. 0.038. Small fragment preserved.

Dark gray. Impressions of irregular matting on two faces of the fragment, one perpendicular to the other. A single cord impression crossed the reeds on one face.

Seal S67. One small fragment of impression; clear.

121 (L4.487). Pl. 24.

L. pres. 0.055. One-third preserved.

Dark gray. Sealing lay on regular basketry which left in the clay rather broad parallel grooves crossed with fine reed marks.

No seal impression.

122 (L4.488). Pl. 24.

L. pres. 0.047. One-quarter preserved.

Partly gray. Impression of rather irregular matting, crossed by at least one cord at a depth of *ca.* 0.007 in the clay.

No seal impression.

UNCLASSIFIED TYPES

There remains to be mentioned a group of twenty-one sealings, exhibiting seventeen seal types, which do not fit into the previous categories. Most are too worn on the under side to be identified; some of these are fragments of circular sealings which either rested on some flat surface, occasionally crossed by cords, or sealed the mouths of jars. A few sealings show smooth hollows made perhaps by a hand, and one small piece (**126**, Pl. 24), with no seal, was pinched around something which seems to have been a twig. One sealing shows a flat surface ending in a straight edge and crossed by cords, evidently the edge of a box (**127**, Pl. 24).

123 (L4.408).

L. pres. 0.116. Nearly complete; edges chipped.

White to dark gray. Two smooth hollows in the thick part of the underside perhaps made by a hand; the rest of the underside is rough and worn and fairly level.

Seal S3. Two impressions complete, two nearly complete, five incomplete; clear.

124 (L4.412). Pl. 25.

W. pres. 0.087. One-half preserved.

Partly gray. Fragment is triangular in section. One face bears the seal impressions, the second is slightly curved and shows fingerprints, and the third is broken.

Seal S3. Five impressions nearly complete; one incomplete; clear.

125 (L4.417). Pl. 25.

L. pres. 0.038. Small fragment.

Dark gray. Underside worn so that only a small slightly curved smooth patch remains.

Seal S5. One impression nearly complete, one incomplete; clear.

126 (L4.477). Pl. 24.

L. and W. pres. 0.031. Probably complete.

Buff. One side is slightly rough, and the other was pinched around a reed or a twig. The thick end was cut off straight and smooth.

Perhaps this is only a bit of excess clay.

No seal impression.

127 (L4.418). Pls. 24, 25.

L. pres. 0.056. One-quarter preserved.

Dark gray. Underside shows the impression of something flat, marked slightly with parallel lines, and ending in a straight edge. This object, which may have been the end of a wooden box, was crossed by two narrow cords. The impression of the frayed end of another is visible in the smooth surface.

Seal S10. One impression nearly complete and very indistinct; one incomplete and clear.

128 (L4.407). Pl. 25.

L. pres. 0.064. One-half preserved.

Partly gray. Part of a rather flat circular sealing, no marks preserved on underside.

Seal S8. One impression nearly complete; clear.

129 (L4.397). Pl. 26.

L. pres. 0.078. One-half preserved.

Partly gray section of a flat circular sealing; flat side crossed by impressions of two cords.

Seal S16. Two impressions complete, one clear and one worn; two incomplete, clear.

130 (L4.395). Pls. 24, 26.

L. pres. 0.055. One-fifth preserved.

Partly gray. Fine parallel marks on flat surface, and a deeper groove across them which may have been left by a cord.

Seal S28. One impression complete, one incomplete; clear.

131 (L4.467). Pl. 26.

L. pres. 0.035. One-quarter preserved.

Dark gray. Part of a flat circular sealing. It rested on a flat smooth surface which was crossed by a narrow cord.

Seal S30. One impression incomplete; fairly clear.

132 (L4.426). Pl. 27.

L. pres. 0.049. One-third preserved.

Dark gray. Part of a flat circular sealing which rested on something level. The fragment preserves the impression of one straight edge.

Seal S36. One impression nearly complete, one incomplete; fairly clear.

133 (L4.454). Pl. 28.

D. pres. 0.093. One-half preserved.

Repaired from many fragments and backed with plaster. Surface gray, core buff and friable. The sealing was circular and rather thick; it was probably used in the mouth of a jar, although no impressions are preserved on the under side except for one faint impression of a cord near the edge.

Seal S48. Three impressions complete, two nearly so, two incomplete; clear.

134 (L4.381). Pl. 28.

L. pres. 0.07. Apparently nearly complete.

Dark gray. The underside is soft and worn, but it appears that the sealing covered some knotted cords.

Seal S50. Three impressions nearly complete, four incomplete; fairly clear.

135 (L4.450). Pl. 29.

W. pres. 0.046. One-third preserved.

Buff to dark gray. Part of a circular sealing which rested on a flat object crossed, apparently, by two cords.

Seal S62. Two impressions nearly complete, one incomplete; fairly clear to worn.

136 (L4.466). Pl. 29.

L. pres. 0.037. One-half preserved.

Gray. Part of a small circular sealing. Parallel marks on the flat underside which indicate that perhaps the sealing rested on wood.

Seal S68. One impression incomplete; indistinct.

137 (L4.350). Pl. 25.

L. pres. 0.059. Uncertain fraction preserved.

Powdery, white, surface hard. Underside badly worn.

Seal S4. One impression complete, four incomplete; clear.

Hesperia, XXIV, 1955, pl. 22, g.

138 (L4.458). Pl. 27.

W. pres. 0.054. Uncertain fraction preserved.

Partly gray. Underside worn. This fragment and **139** may possibly have belonged originally to the same sealing.

Seal S32. One impression incomplete; indistinct.

Seal S41. One impression nearly complete; fairly clear.

139 (L4.459).

L. pres. 0.068. Uncertain fraction preserved.

Gray. Underside worn. See **138**.

Seal S32. One impression incomplete; fairly clear.

140 (L4.455). Pl. 29.

L. pres. 0.037. Small fragment.

Light gray. Indistinct impressions on the underside.

Seal S69. One impression incomplete; fairly clear.

141 (L4.472). Pl. 29.

L. pres. 0.03. Small fragment.

Partly gray. Fragment of a thick sealing; underside preserves only a small section of a smooth surface.

Seal S70. One impression incomplete; fairly clear but distorted.

142 (L4.476). Pl. 24.

L. pres. 0.03. Uncertain fraction preserved.

The fragment is triangular in section. The rough face would have borne the seal impressions, the second was pinched smooth, and the third face, which is narrow and smooth, shows a groove. Perhaps this fragment was only a bit of excess clay.

No seal impression.

143 (L4.481). Pl. 24.

W. pres. 0.061. Uncertain fraction preserved.

Mostly dark gray. Fragment roughly triangular in section; one face with seal impressions, one smooth, and one covered with shallow diagonal reed marks and a bit of a cord impression.

Seal type impossible to determine; three impressions incomplete.

CATALOGUE OF SEAL TYPES

S1. Pls. 20, 25.

D. 0.033.

Deep cut. Tripartite. Three ellipses, tangent to form a triangular space in the center of the seal. Each ellipse is open toward the border of the seal and is filled by a two-branched element growing out of the border.

Examples: Type A: **1, 2, 3, 4, 5, 6, 7, 8.**

Compare Xanthoudides, *The Vaulted Tombs of Mesara*, pl. XIII (Platanos A, C1029).

S2. Pls. 20, 25.

D. 0.022.

Tripartite. Design as S1. The ellipse is bean-shaped, and the ends of the lines curve to form more of an S. The central triangle is smaller. The ends of the ellipses are tangent to the border.

Example: Type B: **37.**

S3. Pls. 20, 25.

D. 0.027.

Tripartite. Double loop design. The outer line of the double loop is continuously tangent to the edge of the seal. Each double loop is connected to the next by a curved line, and thus the design forms one continuous line. In the central triangular space is a counter-clockwise swastika.

Examples: Type A: **35**; Type B: **38, 39**; Type U: **123, 124.**

S4. Pls. 20, 25.

D. 0.022.

Tripartite. Double loop design, as S3. In the central triangular space is a shallow-cut spider reduced to a simple set of lines which represent only its legs (five pairs) and small pointed abdomen. The space is filled well, and a distinctly spider-like effect is produced with the most geometric and formalized means.

Example: Type U: **137.**

S5. Pls. 20, 25.

D. 0.028.

Tripartite. Double loop design as S3. In the central triangular space is a formalized spider whose round ridged body fills one corner of the triangle, and whose two angular legs and head occupy the center. Above the spider's head is a long elliptical object with pointed ends; it may represent a grain of wheat.

Example: Type U: **125.**

S6. Pls. 20, 25.

D. 0.026.

Tripartite. Double loop design, as S3. In each space between two double loops is a three-leafed element. In the central triangular space is an obscure object (the impression is worn), probably a spider with front legs filling the apex of the triangle and two back legs and round body occupying the base.

Example: Type C: **73.**

S7. Pls. 20, 25.

D. 0.026.

Tripartite. Double loop design, as S3, using a double instead of a single line. In the central triangular space is a trefoil, each leaf occupying an angle.

Example: Type A: **36**.

Hesperia, XXIII, 1954, pl. 10, c. (Fragment found in the debris of the House of the Tiles, Room VI).

S8. Pls. 20, 25.

D. 0.032.

Tripartite. Double loop design with double line, as S7. Parts of the lines are doubled, owing to faulty cutting or to a slip of the seal during the application. The object in the central triangular space appears again to be a trefoil, but with straight leaves, each touching a side of the triangle.

Example: Type U: **128**.

S9. Pls. 20, 25.

D. 0.03.

Tripartite. Double loop design, as S3. In each space between two double loops is a three-leaved element, as in S6. The central triangular space is occupied by a trefoil, each of whose leaves fills an angle.

Examples: Type E: **98, 99**.

S10. Pls. 20, 25.

D. 0.033.

Tripartite. The design is restorable with certainty from a fragment. Double loop design, as S3. The loops are long and narrow. There is more space than usual between the loops, and this space is occupied in each case by a trefoil consisting of three nearly round dots. The center triangular space is occupied by a trefoil, each of whose leaves fills an angle. A plain line forms a border.

Example: Type U: **127**.

S11. Pls. 20, 25.

D. 0.025.

Rather shallow cut. Tripartite. The design is a variety of the double loop. The outer line of each double loop is tangent to the border, but the lines which in S3 return to the outer line to form the loops head straight as if to meet each other at a slight angle. They stop just short of meeting and are joined each to the adjoining loop by a short straight line. In the small central triangle thus formed is a trefoil, with each leaf occupying an angle. Each double loop is filled with fine parallel lines running across its width. A plain line forms a border around the seal.

Examples: Type A: **10**; Type B: **40**; Type E: **100**.

S12. Pls. 20, 25.

D. 0.034.

Quadripartite. Double loop design, constructed as in S3, except that the lines joining each double loop to the next are bent at nearly right angles towards the center of the seal. The central part of the design thus forms a regular cross. The small central space is occupied by a quatrefoil with pellet-like leaves and no stems.

Examples: Type E: **101, 102**.

S13. Pls. 20, 25.

D. 0.026.

Quadripartite. Double loop design, constructed as in S3. In the central quadrangular space is a quatrefoil of isolated tear-shaped leaves, each with its round end facing the center and its pointed end filling an angle.

Example: Type B: **71**.

S14. Pls. 20, 26.

D. 0.03.

Quadripartite. The design is restorable with fair certainty from a number of indistinct impressions. Double loop design, constructed as in S13. The lines connecting the double loops

are less deeply curved, and in the larger central quadrangular space thus produced is an outline circle containing (probably) a clockwise swastika. A plain line forms a border around the seal.

Examples: Type C: **74, 75**; Type D: **97**.

S15. Pl. 26.

D. *ca.* 0.022.

Quadripartite. Not completely restorable. Double loop design, probably constructed as in S7 and S8. As in those seals, it uses a double instead of a single line. The central filling motif is not preserved.

Example: Type E: **115**.

S16. Pls. 20, 26.

D. 0.026.

Bipartite. Isolated double loop design with asymmetrical stem. The outside of the double loop is tangent to the edge of the seal. The two loops are formed in the usual way, but the line then continues to form a third loop which runs like a stem to the right of center and thus appears to interlock with the other half of the seal.

Examples: Type B: **41, 42**; Type U: **129**.

S17. Pls. 20, 26.

D. 0.025.

Bipartite. Restorable with certainty from an incomplete impression. Isolated double loop design with asymmetrical stem, as S16, except that the stem loops run to the left of center.

Example: Type E: **103**.

S18. Pls. 20, 26.

D. 0.022.

Shallow-cut. Bipartite. Restorable with near certainty from incomplete impressions. Double loop and single loop design, resembling a swastika. The two double loops face the center of the seal instead of the border, and their longer right loops lie parallel to each other on either side of the midpoint of the seal. In the space

remaining is a single loop. The line is continuous, from the base of one loop to the next. The loops are filled with a single line each; these lines grow directly out of the plain border of the seal. Only the connection between the filling line of the single loop and the border is not preserved in the impressions.

Examples: Type D: **89, 90**.

S19. Pls. 20, 26.

D. 0.026.

Tripartite. The design consists of pairs of loops. Each pair is directly connected to the next, and in each of the three broad triangular spaces thus formed along the edge of the seal is a trefoil with one leaf at the apex of the triangle. The design itself is primarily a trefoil, but a double one.

Examples: Type E: **104, 117**.

S20. Pls. 20, 26.

D. 0.032.

Tripartite. Restorable with fair certainty from an incomplete impression. The design consists of continuous triple and single loops. The outer line of each triple loop is parallel to the border; at its center, the line swings in sharply towards the center of the seal to form a third loop not quite at right angles to the other two. A single loop to the right of each triple loop runs almost to the center of the seal. A single line forms a border around the seal.

Example: Type E: **105**.

S21. Pls. 20, 26.

D. 0.027.

Quadripartite. The design consists of continuous triple and single loops, as S20, except that the third (middle) loop in each case is exactly at right angles to the other two, and there is no border.

Example: Type B: **43**.

S22. Pls. 20, 26.

D. 0.03.

Tripartite. Continuous single loop design. The three loops run counter-clockwise and parallel to the edge of the seal. The inner line of each loop forms a sharply pointed projection, or tail, below the loop and parallel to it and swings back to the border in a second loop. From another point of view the design consists of three asymmetrical paired loops. The effect is that of a triskelion; the construction is similar to that of S20.

Example: Type A: **11**.

S23. Pls. 21, 26.

D. 0.029.

Quadripartite. Continuous double and single loop design. The design resembles S12 except for the addition of the single loop on the arm of the cross, the absence of the filling motif, and the rarity of sharp angles.

Example: Type C: **76**.

S24. Pls. 21, 26.

D. 0.015.

Shallow cut. Quadripartite. Continuous double and single loop design. The double loop is roughly heart-shaped and faces the edge of the seal. The line swings out at the left from the base of the double loop to the edge of the seal to form the single loop. This is the smallest of the Lerna seal designs.

Example: Type B: **44**.

S25. Pls. 21, 26.

D. 0.023.

Quadripartite. Continuous single loop design forming a swastika. The loops run clockwise around the edge of the seal, but straight rather than parallel to the edge. The outer line of each loop makes an abrupt right angle as soon as it reaches the edge of the seal and continues inward until it joins the next loop in

a curve. In the central space is an L-shaped object.

Examples: Type B: **44, 45, 46, 47, 48**.

S26. Pls. 21, 26.

D. 0.025.

Quadripartite. Continuous single loop design. The loops run counter-clockwise in pairs around the edge of the seal. Each loop joins the next in another loop which faces the center of the seal. Acute angles are frequent. In the center of the seal is a plain small outline circle with a dot in the middle.

Examples: Type A: **12, 13, 14, 15, 16, 17, 18, 19, 20**.

S27. Pls. 21, 26.

D. 0.021.

Quadripartite. Single loop design resembling a swastika. The loops run clockwise around the edge of the seal and parallel to it; the head of each loop is rectangular rather than curved. Each loop grows out of one arm of a simple cross which divides the seal into four segments. The inner line of the loop is parallel to the arm of the cross, but stops short before running into the line of the next arm. In the space left between the loop and the arm is a short line sprouting at right angles from the next arm.

Example: Type E: **118**.

S28. Pls. 21, 26.

D. 0.027.

Bipartite. Double loop design. The outer line of the double loop is tangent to the edge of the seal, and the inner line of each loop is cut short. In the center of the seal is an elongated diamond tangent to the loops. A filling line within the loops grows directly out of the diamond. A quatrefoil occupies the space within the diamond; each leaf fills an angle. There is no space left between any of the lines; the only empty space is within the diamond.

Examples: Type D: **91**; Type U: **130**.

S29. Pls. 21, 27.

D. 0.026.

Tripartite. Not completely restorable. Interlocking T design (a geometric figure in which the space between two parallel lines is filled with interlocking T's which grow out of each line in alternation). This type of design is adapted to a circle and used on a number of the Lerna seals. In S29 the basic design alone is present, distinguished only by the bent head of the inner T which resembles a two-leafed element. The central ring (inner parallel line) has not been perfectly preserved but is probably correctly restored.

Example: Type C: **77**.

S30. Pls. 21, 26.

D. 0.026.

Quadripartite. Partially restorable from an incomplete impression. Interlocking T design, as in S29. The outer (border) line is omitted. The ends of the T's are sharp. The central ring is larger than in S29 and contains some filling motif, most of which has not been preserved.

Example: Type U: **131**.

S31. Pls. 21, 26.

D. 0.024.

Quadripartite. Interlocking T design. Unlike S29, a square is substituted for the central ring. The heads of the T's which face inwards bend sharply to accommodate themselves to the corners of the square, and their ends are rounded, so that they resemble two-leafed elements. Within the square is a quatrefoil with a large round center and small pellet-like leaves, each leaf occupying an angle.

Example: Type C: **87**.

S32. Pls. 21, 27.

D. 0.051.

Deep cut. Quinquupartite. Restorable with certainty from incomplete impressions. Interlocking T design. The inner line and inner T's

are omitted. An isolated line in the form of a trapezoid frames the T. Between one trapezoid and the next a second line grows out of the outer line, and branches into a three-leafed element near the center of the seal. The small central space is filled by a diamond, and between each three-leafed element and the next is a triangle. The ends and angles of the lines are slightly knobbed as if worked with the drill. This seal is by far the largest of the Lerna examples.

Examples: Type B: **49, 50, 67**; Type U: **138, 139**.

S33. Pls. 21, 27.

D. 0.026.

Deep cut. Quadripartite. Interlocking T design. There is no central circle; the inner T's grow out of a central cross. The outer T's have become three-leafed elements.

Example: Type B: **51**.

Hesperia, XXIV, 1955, pl. 22, a.

S34. Pls. 21, 27.

D. 0.03.

Quadripartite. Continuous triple loop design with three-leafed elements. Four three-leafed elements on long stems, with their leaves set at right angles, face each other in the center. Each stem joins the angular triple loop on either side. In each triple loop (see S20 for the type) the head of the center loop is tangent to the edge of the seal, and the other two loops face the inner part of the seal.

Example: Type E: **106**.

S35. Pls. 21, 27.

D. 0.024.

Tripartite. Three-leafed elements, with short stems and long side leaves, grow out of the plain border and approach the midpoint of the seal. Each part of the design is outlined only by a narrow groove, and the intermediate space is left raised as well except for a small diamond

in the center of each space between two three-leafed elements.

Example: Type D: **92**.

S36. Pls. 21, 27.

D. 0.026.

Tripartite. Continuous design of three-leafed elements. The three-leafed elements are done in outline with short stems, long side leaves, and rectangular center leaves which approach the midpoint of the seal. Each stem is joined to the next by a continuation of the line; this line serves as a border.

Example: Type U: **132**.

S37. Pls. 21, 27.

D. 0.02.

Tripartite. Trefoil design. The solid trefoil, outlined with a single line, divides the seal into three parts. In each space thus left is a stemless three-leafed element which faces outward.

Example: Type B: **72**.

S38. Pls. 21, 27.

D. 0.025.

Tripartite. Trefoil design. The solid trefoil divides the seal into three parts. In each space thus left is a triskelion whose two outer legs are longer and less sharply bent than the inner. A single line forms a border around the seal.

Example: Type B: **52**.

S39. Pls. 21, 27.

D. 0.033.

Quadripartite. Design of two- and three-leafed elements, in outline. The elements alternate, facing outwards, around the edge of the seal. In the central space is a swastika, also done in outline.

Examples: Type B: **53, 54, 55**; Type E: **107, 108**.

S40. Pls. 21, 27.

D. 0.021.

Deep cut. Tripartite. Design of two- and

three-leafed elements. The elements alternate, facing outwards, around the edge of the seal. In the central space is a trefoil with a pellet in its center and three slightly elongated pellet-like leaves.

Examples: Type B: **53, 54, 55, 56**; Type

C: **78**; Type E: **107, 108**.

S41. Pls. 21, 27.

D. 0.022.

Quinquepartite. Design of three-leafed elements. Five of these elements face outwards around the edge of the seal. In the central space is a swastika.

Examples: Type B: **49, 50**; Type U: **138**.

S42. Pls. 21, 27.

D. 0.026.

Quadripartite. Design of three-leafed elements and swastikas. The three-leafed elements and the swastikas alternate around the edge of the seal. The three-leafed elements face outwards. In the central space is another swastika, on an axis with the three-leafed elements (in the drawing it appears as if on an axis with the other swastikas).

Example: Type D: **93**.

S43. Pls. 21, 27.

D. 0.035.

Bipartite. Design of three-leafed elements. In either half of the seal, two stemless three-leafed elements face inwards, side by side, and another, stemmed, fills the space between them and faces outwards. At the middle of the central axis of the seal are two pellets. Only a narrow groove outlines each part of the design, so that the whole background is raised, as well as the design. The groove around one of the pellets is prolonged along the axis to meet the edge of the seal with a slight curve, and the groove around the other pellet forms with the background a single clockwise spiral at the

edge of the seal. There are a few slight irregularities in the cutting of the background.

Example: Type E: **119**.

S44. Pls. 22, 27.

D. 0.032.

Bipartite. Partially restorable from an incomplete impression. Design of two- and three-leafed elements. From the preserved fragment of the impression, it appears that the elements alternate around the edge of the seal. The two-leafed element is deeply cut and faces outwards; the other is done in outline with a filling line in each leaf and faces inwards. Between each element and the next are some lines which may be, and have been restored as, a curvilinear continuation of the outer line of the three-leafed element. The exact form of the object in the central space is uncertain.

Example: Type E: **109**.

S45. Pls. 22, 28.

D. 0.03.

Bipartite. Restored as symmetrical from an incomplete impression. Spiral design. A single raised line with a slight swelling at the mid-point marks the central axis of the seal. At each end, the line sprouts two opposing spirals. A solid curvilinear T with a flared base faces inward at right angles to the axis on either side. Every available space is filled. Between the axis and the top of each T is a crescent, and between each T and spiral are two more crescents, the one nearer the T slightly angular. Below each side of the T crossbar is a tear-shaped object, and at the head of each pair of spirals is a curvilinear triangle.

Example: Type E: **110**.

S46. Pls. 22, 28.

D. 0.02.

Shallow cut. Quadripartite. Spiral design. The main design consists of continuously interlocking spirals, four running clockwise in a square, and a fifth counter-clockwise in the

center. Around the outside of the seal, in the spaces between the spirals, are four small S-spirals.

Example: Type A: **21**.

S47. Pls. 22, 28.

D. 0.018.

Quadripartite. Spiral design. The continuous clockwise spirals are extremely simple, consisting each of half a coil. The space at the edge of the seal, between each spiral and the next, is filled by a curvilinear triangle with its apex inwards, and in the center of the seal is a diamond with curvilinear sides.

Example: Type B: **57**.

S48. Pls. 22, 28.

D. 0.021.

Quinquepartite. Hook spiral design. The clockwise spirals grow on broad-based stems out of the wide border, and face inwards. Each spiral consists of five joints. In the center of the seal is a small ring.

Example: Type U: **133**.

Hesperia, XXIV, 1955, pl. 22, b.

S49. Pls. 22, 28.

D. 0.018.

Bipartite. Spiral design. Two closely wound opposing spirals with a common stem occupy nearly one half of the seal. The stem divides into three lines which form a T. Another line outlines the stem and the underside of the crossbars, and tapers to a point at its ends. Beneath each crossbar is a tiny single spiral or quirk facing outwards. The curvilinear triangular space above the main spirals is also raised. In the greater part of the seal, only a narrow groove separates one element from the next.

Examples: Type A: **22, 23, 24**.

S50. Pls. 22, 28.

D. 0.023.

Trefoil design. One trefoil is in the center;

six others are placed around it in the same orientation. The impressions on **111** and **112** were made when the surface of the clay was very wet and soft.

Examples: Type E: **111, 112**; Type U: **134**.

S51. Pls. 22, 28.

D. 0.0315.

Deep cut. Trefoil design. Five large trefoils are placed in order around the seal. One leaf of each faces the midpoint of the seal.

Examples: Type A: **25, 26**.

S52. Pls. 22, 28.

D. 0.029.

Trefoil design. Five trefoils are placed in order around the seal. One leaf of each faces approximately the midpoint of the seal; the central space is larger than in S51. A single line forms a border around the seal.

Example: Type E: **113**.

S53. Pls. 22, 28.

D. 0.023.

Trefoil design. One trefoil is in the center; six others are placed around it in the same orientation. Single dots are visible in some of the spaces left around the edge of the seal, and perhaps filled all these spaces. A single line forms a border around the seal.

Example: Type D: **94**.

S54. Pls. 22, 28.

D. 0.027.

Trefoil design. One trefoil is in the center; six others are placed around it in the same orientation. Some smaller trefoils, irregularly placed around the edge of the seal, can be made out. Some of these curve up the edge of the impression and must have been carved on the very edge of the seal itself. All of the trefoils have round deep-cut ends, probably worked with the drill, and narrow shallow stems.

Example: Type A: **27**.

S55. Pls. 22, 28.

D. 0.025.

Quadripartite. Jug and trefoil design. The elements alternate around the seal; the bodies of the jugs and one leaf of each trefoil face the midpoint of the seal. The jug has a round body without a base, a high neck and a long spout slightly tilted upward, and a long vertical handle. It resembles the round-bodied and beaked Anatolian type (e.g. *Troy*, I, Part 2, pl. 130, B20).

Examples: Type A: **21, 28, 29**; Type B: **58, 59, 60, 61, 62, 63, 64, 65**.

S56. Pls. 22, 28.

D. 0.026.

Bipartite. Triskelion and T design. The stems of the T's divide the seal into four equal parts. The T's have bases, narrower than the crossbars; the crossbars of the smaller T's face inwards and are set at a slight angle to the stems. In two opposite quadrants are curvilinear triskelia with sharp points. In the other two quadrants are two trapezoidal objects, slightly curvilinear; each of these objects is outlined by a single line and crossed by four or five horizontal grooves in its upper part.

Example: Type A: **30**.

S57. Pls. 22, 28.

D. 0.027.

Shallow cut. Bipartite. Woven design. The design appears to be one continuous line, or two overlapping squares; it is actually two lines which are perfectly interwoven. Each separate line is double and forms a square with slightly concave sides. The two sides of the square which lie within the area of the other square cross and continue in a reverse curve until they join.

Examples: Type A: **7, 8, 9**; Type B: **66**.

Hesperia, XXIV, 1955, pl. 22, c. Compare Evans, *Cretan Pictographs*, fig. 84 (Hagios Onuphrios, C6).

S58. Pls. 22, 28.

D. 0.028.

Shallow cut. Quadripartite. Restorable with near certainty from incomplete impressions. Cross design (hatched quadrant). Two pairs of parallel lines set wide apart intersect. In the central square is inscribed a second square crossed with two lines. Each arm of the main cross contains three parallel chevrons, apices inward; the outer chevron had a short thick stem like the shaft of an arrow. In each of the small triangles left between the arms of the cross are two more chevrons, the outer one, although not clear, probably stemmed.

Example: Type C: **79**.

S59. Pls. 22, 26.

D. 0.019.

Fairly shallow cut. Tripartite. Triangular design. To the eye, each third of the seal appears to contain two approximately right-angled triangles with apices toward the center. An equilateral triangle is in the center, and a border surrounds the design. Actually the whole field, except for the spaces within the triangles and in the center, is filled with three broad continuous lines, each one of which follows the same angular course around two-thirds of the circumference of the seal.

Examples: Type C: **74**; Type D: **97**.

S60. Pls. 22, 29.

D. 0.0215.

Tripartite. Continuous triangular design. The general effect of this seal is similar to that of S59, but it is produced in a different manner. The whole design, except one small pellet in the center, is one continuous line, which forms four triangles asymmetrically placed in each third of the surface. All the lines are more or less curved, and nearly all the angles are sharp.

Example: Type C: **86**.

S61. Pls. 22, 29.

D. 0.022.

Spider design with cog border. The center

of the seal is occupied by a spider with a round abdomen, and head and thorax represented by two small balls. The spider has three pairs of slender bent legs attached to the thorax, and one thick lower pair barely attached to the top of the abdomen. A line bent into seven rectangular projections like the cogs of a wheel forms a border. The cutter misjudged the distance and enlarged one cog to fill a space a little too small for two; the restored drawing shows the seal with eight cogs evenly spaced. The spider's legs were set perpendicularly to its body rather than obliquely.

Examples: Type A: **31, 32, 33, 34**.

Compare Frödin and Persson, *Asine*, fig. 172, 5.

S62. Pls. 22, 29.

D. 0.021.

Shallow cut. Restorable with moderate certainty from incomplete or worn impressions. Design of scallops and filling motifs. The impressions are not perfectly clear, but it seems certain that the seal is outlined by a single line border, within which is a border of scallops. Within this is another, but incomplete, border of scallops. In the center are two rings side by side, an X, and another object which has been restored in the shape of a wishbone. These central objects are not placed symmetrically.

Example: Type U: **135**.

S63. Pls. 22, 29.

D. 0.024.

Rather shallow cut. Ring design. From the midpoint of the seal project eleven lines like the spokes of a wheel, and at the end of each line is a ring. The spokes on one side are shorter than those on the other, and the rings vary slightly in size, owing to an oversight on the part of the artist. The restored drawing shows ten symmetrical spokes and rings.

Example: Type E: **116**.

S64. Pl. 29.

D. *ca.* 0.03.

Incomplete. Preserved: part of an interlocking T pattern or of another double loop design.

Examples: Type C: **80, 81.**

S65. Pl. 29.

D. *ca.* 0.025.

Incomplete. Preserved: one quatrefoil (?), some dots, and part of a single line border.

Example: Type C: **82.**

S66. Pl. 29.

D. *ca.* 0.03.

Incomplete. Preserved: parts of a single line border and loop.

Example: Type E: **114.**

S67. Pl. 29.

D. uncertain.

Incomplete. Preserved: parts of three loops,

and the end of another object, unidentified. No border.

Example: Type E: **120.**

S68. Pl. 29.

D. *ca.* 0.022.

Incomplete. Preserved: a jug(?), and parts of two other objects, unidentified. No border.

Example: Type U: **136.**

S69. Pls. 22, 29.

D. uncertain.

Incomplete. Rather shallow cut. Preserved: triple lines, close set with only a slight groove between them, forming part of a swastika(?).

Example: Type U: **140.**

S70. Pl. 29.

D. uncertain.

Incomplete. Preserved: part of a single (?) loop, formed of two parallel lines; a pellet, perhaps in the center of the seal; another line forming a triangle attached to the pellet.

Example: Type U: **141.**

CONCLUSIONS

Most of the seal types of this group are remarkable for their consistent symmetry and ingenious and careful use of a few simple geometric forms. The technical skill of the cutters was very great. From the variety of design and technical method employed one may suppose that a number of different cutters produced the seals, although certain groups may have been the work of the same man. The loop designs S1-S26, for example, with the exception of S18, may have come from the same hand. S41 and S42 are remarkably similar to each other, and the trefoil designs S50-S54, particularly S50, are closely related to the jug and trefoil seal S55. In the absence of the seals themselves and, in many cases, of sufficiently clear impressions, it does not seem possible to draw any definite conclusions about the number of seal cutters and the stylistic range of each one. In the following stylistic summary the individual designs are considered in the order of the catalogue, and an attempt is made to point out the most striking features of each group.

The first twenty-six types may be classed roughly as varieties of the loop pattern, of which the most popular is the double loop, tripartite or quadripartite. This design

is repeated over and over again with a business-like accuracy which suggests a good deal of skill combined with some unknown practical consideration—perhaps a form of bookkeeping—which apparently did not exclude, and may have required, such similarity. The differences in the group S3-S10 are slight but would be quickly recognized by a practised eye. S7, for example, is to be distinguished from S8 by the smaller size and by the placement of the trefoil, while S9 is unlike S10 in its three-leafed elements and in the absence of a border. But the seal cutters did not lack originality on occasion. Besides the quadripartite variation, which in this group for some reason is less popular than the tripartite, a simplification of the type appears in S11, with good if slightly monotonous effect. There are small details, even in this group, which point to the liveliness of the glyptic tradition. The trefoil, or quatrefoil, for example, while usually drawn like an airplane propeller with the curved ends of its blades outward, can be reduced to pellets (S10) or straight lines (S8), or the blades may be reversed so that the pointed ends turn outwards (S13). Again, the spider, which aside from the jug is the only naturalistic motif used in the Lerna designs, is by no means a stereotyped figure (S4-S6, S61); the artist has no arbitrary notions about the number of its legs or the shape and divisions of its body, and yet he conveys in each case the quality of a spider without sacrificing the proportions of his design.

The first two types in the double loop series (S1 and S2) present another problem. They appear to be the reverse of the usual tripartite design in that the double loops face the center of the seal, but it may be preferable to regard them as a variant or simplification in which the outer loops are lost and the inner lines have become curved. S1 retains more of the space left by the outer loops, and shows better than S2 its connection with the familiar C-spiral design,⁸ with which the whole group is closely related. It is worth noticing that no example of this complete C-spiral design occurs among the impressions from the House of the Tiles although one clear example has turned up among the sealings from Room DM. This circumstance favors the suggestion that the double loop designs were derived from the C-spiral in the course of a period of stylistic development on the mainland.

The next pair of seal types (S16 and S17) illustrates plainly the habit of distinguishing one design from another in the simplest possible manner. These two are identical but reversed. The design element is asymmetrical, but for all its simplicity it is not drawn in a careless manner, and it is strictly and symmetrically paired with its double. The type can be compared with a single and slightly asymmetrical loop element which forms the design on an ivory cone seal from Platanos.⁹

The remaining loop designs testify to the seal cutters' skill in combining asymmetrical elements into a symmetrical whole, and emphasize their mastery of con-

⁸ E. g. Evans, *Scripta Minoa I*, p. 141, fig. 89.

⁹ Xanthoudides, *The Vaulted Tombs of Mesara*, pl. XIII (Platanos B, C1052, Matz K101).

tinuous line. Presumably some mechanical method was used at least in laying out the most complex of the designs, as for example the related types S20 and S21. It is possible to trace a simple scheme behind many of these virtuoso variations—the S3 double loop type in S20, S21, and particularly S23, the swastika in S18, S25, and S26, and the triskelion in S22—but to the eye the controlled richness of a design using only a few loops and angles is the most remarkable thing.

Nearly half of the designs belong to the type of the continuous line. An entirely different effect is produced when the line is abruptly broken (S27, a swastika type), or when the space between lines is reduced to simple grooves (S28). The interlocking T design is the most popular of the broken line type; it forms the basis for five dissimilar seal types, and may be connected with the use of the convenient T filling on a number of other seals (S1, S2, S45, S56). S29 may exemplify the basic system, whereas S30 has lost its outer line and acquired a filling motif in the center, and S31 shows a central square around which the lines have become ridges separated by grooves. Here we see the emergence of the leafed element from the T. The three-leafed element is prominent in the next two types. The first (S32) is large and rather crudely cut; the cutter has omitted the central ring and T's completely in favor of extra lines and extra T's which become the three-leafed elements. Yet the interlocking principle is still strong, and no space is wasted. S33 is a simpler specimen, in which only the central ring is omitted. In S34-S36 only the three-leafed element is retained; S36 is built on the groove principle, but S34 incorporates a system of complex loops which resembles the classical maeander.

The next seal types S37-S42 show, instead of the continuous and the broken line, only isolated elements: trefoil, leafed elements, swastika, triskelion. This feature gives them a marked similarity, but does not produce confusion, partly because the seals are of widely different sizes. S39 and S40, alike in design but distinguished by size and by various details, occur together on a number of sealings. This is the only case in which there is such similarity between two different impressions on one sealing, and it suggests a certain practical significance in the variations of the design. It is remarkable that, with the exception of S41, the seal cutters seem to have been strongly conscious of the divisions of the design, to the extent of using tripartite figures to fill out a tripartite design (S37-S38, S40), and quadripartite to fill out a quadripartite (S39, S42). The same is often true of the double loop designs. Further examples of the pattern of isolated elements are found in the group S50-S56. The repetition of trefoils is extraordinary; again, the distinction between seals is arbitrary, achieved by arrangement (parallel or radial), or by the addition of a border or border figures. Another variation alternates small jugs with the trefoils (S55). The last seal in this group (S56) shows a rectangular rather than a circular design, but the constant curves of its elements successfully deceive the eye. It is a tour de force of composition with asymmetrical parts. The trapezoidal object has not been identified. Pos-

sibly it was invented for the occasion; in any case it adds a suggestion of weight, and the parallel lines crossing it serve most successfully to balance the motion of the curves.

The leafed element is the prominent feature of S43 and S44. The former, bipartite like S45, constructs its design with grooves instead of lines, and shows a number of irregularities, noticeably the single spiral, which distinguish it from the majority of the seals. The design is careful and well balanced. It is not really possible to judge the total effect of S44, but it seems to have been similar to that of S39. The tendrils, if accurately reconstructed in our drawing, have no parallel at Lerna.

S45-S49 are the types on which spirals occur. The opposing, or C, spirals of S45 form the backbone of the design, but the greater part of the field seems to have been cut up into curved and angular filling-shapes. If the reconstruction, which is based on a small fragment, is correct, we have here a system of design unique among the seals from the House of the Tiles. The next two types (S46 and S47) show a familiar combination of four running spirals. The first is done with great delicacy; it has a central spiral, and the spaces along the border are filled with S spirals. The second is much simpler and shows raised portions of the ground as filling. S48 is also simple, but quite differently constructed, with five abbreviated and angular spirals projecting from the border. The last of this dissimilar group of seals (S49) is a groove design incorporating a pair of spirals with loops, and quirks as filling.

The remaining seal types are difficult to classify stylistically. S57 is a handsomely composed and constructed pair of interwoven lines. S58 is an elaborate version of the "hatched quadrant" type of seal, a type which is not particularly well adapted to the circle, but which is here designed with considerable originality. Neither one has any parallel among the other seals here catalogued. S59 and S60 are laid out in a tripartite scheme in which each division contains two triangles, but whereas S60 is done with a continuous line, S59 is built, as the diagram beneath the drawing indicates, of three interlocking ridges separated by grooves. The accuracy with which this deceptively simple little seal was constructed cannot be too highly commended.

The last three complete seals, S61-S63, are the only ones which show any major flaw in symmetry. The "cogs" of S61's border should have been eight, but the cutter visibly miscalculated (Pl. 29) and was obliged to enlarge the seventh cog. S62 is neatly cut but not sufficiently well preserved for one to examine the entire course of the inner scallop border and the mysterious and ill-assorted objects in the center. S63 is also well cut, although the cutter missed the midpoint of the seal and crowded an extra circle and spoke into the design. The remaining seal types, S64-S70, are too fragmentary for comment, with the exception of S69 which appears to have been a complex maeander or swastika in the style of S18 or S59.

The related material which can be brought to bear on the problem of these seal impressions is various but often insufficient. It will be briefly summarized here. From

the mainland of Greece we have only the Lerna evidence not catalogued here, including the group of impressions from Room DM, and the seals and impressions from Asine and Zygouries. Room DM¹⁰ furnishes two simpler versions of the hatched quadrant (cf. S58), two forms of the spiral which provide parallels for S45 and S1-S2, and (probably) a variety of the design embodying an isolated three-leafed element, exemplified by S40. Among the pieces from Asine,¹¹ neither the three clay impressions, found in Early Helladic III context, nor the impressions on the shoulder of an Early Helladic III jar offer close parallels to any of the group from the House of the Tiles, but as a whole they resemble the Lerna impressions in symmetry and in choice of geometric forms. The loop swastika¹² bears a resemblance to S25 and S26. The triskelia recall a number of designs, particularly S22. The large spider surrounded by a border of loops is certainly closer to S61 than to a Minoan design of the sort found on an ivory cylinder from Platanos.¹³ The seals recovered at Asine,¹⁴ however, as at Lerna, are unlike the impressions. Two of the three stone seals, all of which are dated Early Helladic III, show extremely simple asymmetrical linear designs; the third has none at all. One further seal dating to the earliest Middle Helladic phase is of terracotta and shows a very crude design. From Zygouries¹⁵ comes a design consisting of a concentric circle, impressed on the side of a bowl, and an elaborate but asymmetrical linear design on a terracotta button seal.

There is a fairly large body of glyptic of the late Early Minoan and early Middle Minoan periods, much of which has been studied by F. Matz.¹⁶ Stratigraphical indications for these seals are in most cases inadequate, but stylistically the designs offer many interesting comparisons, which will be summarized here approximately in the order of the catalogue. For the favorite loop designs, there are, oddly enough, few parallels. An ivory seal from Platanos¹⁷ is almost the only close parallel for the types S3-S15, but later examples,¹⁸ clearly connected with the C-spiral, are fairly common. The true loop used in a closed symmetrical design is not popular in Crete;

¹⁰ *Hesperia*, XXV, 1956, pl. 44, e and f.

¹¹ Frödin and Persson, *Asine*, figs. 160, 1 and 2; 172, 5-7. Also one impression on a bowl, Blegen, *Zygouries*, fig. 91, 1.

¹² Weinberg (*Relative Chronologies in Old World Archeology*, ed. Ehrich, p. 90, following Matz, *Gnomon*, XVI, 1940, p. 152) connects this with an Egyptian type which does not last beyond the XIth Dynasty.

¹³ Xanthoudides, *The Vaulted Tombs of Mesara*, pl. XIII (Platanos B, C1039, Matz K49).

¹⁴ Frödin and Persson, *Asine*, fig. 172, 1, 3, 4, 9.

¹⁵ Blegen, *Zygouries*, fig. 91, 1, pl. XXI, 4. Also, from Hagia Marina, a steatite cone seal from an E. H. level, showing a design of four lines, *R.E.G.*, XXV, 1912, p. 276.

¹⁶ F. Matz, *Die Frühkretischen Siegel*, Berlin, 1928.

¹⁷ Xanthoudides, *The Vaulted Tombs of Mesara*, pl. XIII (Platanos B, C1029, Matz K60).

¹⁸ Evans, *Scripta Minoa I*, p. 141, fig. 89 (Matz, K212), Hogarth, *J.H.S.*, XXII, 1902, pl. X, no. 134. Evans, *Palace of Minos, II*, p. 201. Karo, *Schachtgräber von Mykenai*, pl. VI (stele).

the "rapport" or endless pattern and the entirely asymmetrical design¹⁹ are the most common versions. The swastika²⁰ occurs as the major element in a design, not as filling motif, while the triskelion²¹ is used either alone or as the central figure, except in one striking design from Mochlos, restored as six triskelia arranged about a seventh,²² which recalls the Lerna multiple trefoil seals. Three-leafed and two-leafed elements are known in Crete,²³ generally stemless and arranged as symmetrical subordinate motifs, but also on occasion as a rapport design. No single example closely resembles the Lerna types S39-S44,²⁴ with the possible exception of the designs on two seals from the Hagia Triada tholos.²⁵ The second of these may show a central trefoil surrounded by two-leafed elements; if so, a parallel is provided for S37 and S38. Trefoils are not popular on the Cretan seals, but quatrefoils²⁶ do occur, singly, in rapport, or as filling.

There are of course many parallels available in various fields for the Lerna spiral designs,²⁷ from Crete and the Cyclades as well as elsewhere. The Lerna material offers fresh evidence in this question; it does not, however, provide the only known examples of Early Helladic spirals, since these have been previously observed as decoration in relief on pithoi.²⁸

A number of other Lerna motifs find parallels on Cretan seals: ring (or ball) and spoke,²⁹ spider,³⁰ jug,³¹ interwoven lines,³² hatched quadrant pattern.³³ The spider

¹⁹ *Annuario*, XIII-XIV, 1930/1, fig. 66, p. 199; fig. 102, p. 209 (Matz, K147, K70).

²⁰ *Annuario*, XIII-XIV, 1930/1, fig. 72, p. 201. Xanthoudides, *The Vaulted Tombs of Mesara*, pl. VIII (Porti, C648, Matz K242).

²¹ Xanthoudides, *The Vaulted Tombs of Mesara*, pl. VIII (Kalathiana, C817; Matz, pl. VI, 19), pl. XIII (Platanos B, C1104, Matz K54).

²² Matz, K35, fig. 39, p. 133.

²³ Palaikastro, *B.S.A.*, VIII, 1901/2, p. 296, fig. 13 (Matz, K131). Xanthoudides, *The Vaulted Tombs of Mesara*, pl. XIII (Platanos B, C1087, Matz K59).

²⁴ Possibly seal 3332 of the Yamalakis collection, a bipartite design with loops, may be brought into connection with S43 and S44.

²⁵ *Annuario*, XIII-XIV, 1930/1, fig. 112 c, p. 212; fig. 89, p. 205.

²⁶ *Δελτίον*, 1918, pl. V (Matz, K157). *Annuario*, XIII-XIV, 1930/1, fig. 92, p. 207 (Matz, K72); fig. 91, p. 206.

²⁷ E. g. Xanthoudides, *The Vaulted Tombs of Mesara*, pl. XIII (Platanos B, C1104, Matz K54); pl. IV (Koumasa B, C516, Matz K1). *Annuario*, XIII-XIV, 1930/1, fig. 86, p. 205. Karo, *Schachtgräber von Mykenai*, pl. VI. From Palestine, an impression, Marquet-Krause, *Les Fouilles d'Ay*, pl. LXVIII, 63.

²⁸ E. g. *Hesperia*, XXV, 1956, p. 169, pl. 44, b.

²⁹ *J.H.S.*, XVII, 1897, pl. X, 13 b (Matz, pl. XXI, 5 b). *B.C.H.*, LXX, 1946, p. 80, fig. 2, c.

³⁰ Single spider: *J.H.S.*, XVII, 1897, pl. IX, 1 c, pl. X, 15 a; a number in the Yamalakis collection (some published by Agnes Xenaki, in *Κρητικά Χρονικά*, 1949, nos. 25, 32, and 47). Several spiders: Xanthoudides, *The Vaulted Tombs of Mesara*, pl. XIII (Platanos ζ, C1039, Matz K49).

³¹ Evans, *Palace of Minos*, I, fig. 145 (Matz K161). *Εφ. Ἀρχ.*, 1907, pl. VI, 16 (Matz K82).

³² Evans, *Cretan Pictographs*, fig. 84 (Matz K64). Levi, *Bollettino d'Arte*, 1956, no. III, fig. 46, a.

³³ Evans, *Cretan Pictographs*, fig. 87 (Matz K66). *Annuario*, XIII-XIV, 1930/1, fig. 75, p. 201.

occurs singly on seals of steatite, and in a group on an ivory seal; it does not appear as a central filling motif as at Lerna. Similarly, the jug occurs, not as at Lerna as a major part of a symmetrical design, but as one of a group, usually subordinate to other figures, but sometimes alone.

In the present state of our knowledge parallels with oriental seals are to be used with hesitation, but it is worth noting that both spider and jug are known to many cylinder seals of Jemdet Nasr style.³⁴ The design of interwoven lines (S57), not matched in quality by any of the Cretan examples, except possibly by certain of the impressions discovered at Phaestos,³⁵ is remarkably Celtic in appearance; it has a parallel in the snake coil on seals of the Early Dynastic and Akkadian periods.³⁶ The swastika is known in Iran,³⁷ and the opposing spiral on a stamp seal from Tell Brak.³⁸ Finally, we have many examples of the hatched quadrant, from sites in Anatolia, Egypt, and Iran.³⁹ The principle of the design is admittedly a simple one, and may easily have been invented independently at many sites; none of the parallels approaches the complex development of the Lerna design.

This list of possible Eastern connections (spider, jug, interwoven lines, swastika, opposing spiral, hatched quadrant) is not long. The cylinder seal has its own tradition apart from the stamp seal,⁴⁰ and those areas in which the stamp seal prevails have not yet produced much applicable material. With a better knowledge of the seals of the First Intermediate Period in Egypt, it might well be possible to define connections between that area and the Aegean. The hatched quadrant has already been mentioned; the interlocking spiral occurs,⁴¹ and there are certain bipartite seal designs which can be compared with the type of S49.⁴²

This brief survey of the comparative material suggests problems instead of

³⁴ E. g. Frankfort, *Stratified Cylinder Seals from the Diyala Region*, pl. 75, 817, and pl. 3, 2.

³⁵ Levi, *Bollettino d'Arte*, 1956, no. III, fig. 46, a.

³⁶ E. g. Frankfort, *Stratified Cylinder Seals from the Diyala Region*, pl. 24, 244. Also an unusual example from Egypt, Petrie, *Buttons and Design Scarabs*, pl. VII, 9.

³⁷ Contenau and Ghirshman, *Fouilles du Tepe-Giyan 1931-1932*, pl. 38, no. 31. Also on pottery; e. g., Langsdorff and McCown, *Tall-i-Bakun A*, pl. 74, 1.

³⁸ Mallowan, *Iraq*, IX, 1947, pl. XIX, 15.

³⁹ E. g. Von der Osten, *The Alishar Hüyük*, I, 1928/29, fig. 269. Goldman, *Tarsus*, II, pl. 392, no. 7. Petrie, *Buttons*, pl. IV, 221 and 223. Ghirshman, *Fouilles de Sialk*, I, pl. LXXXVI, S417, S85. Langsdorff and McCown, *Tall-i-Bakun A*, pl. 82, 3.

⁴⁰ Miss Porada has brought to my attention the impression of a circular stamp seal, from Uruk (Jordan, *Ausgrabungen in Uruk 1930/1*, pl. 19, a; Moortgat, *Die Entstehung der Sumerischen Hochkultur*, pl. 18, b) which shows considerable symmetry, and unique curved forms. She suggests that the original seal may have been of wood.

⁴¹ Petrie, *Buttons*, pl. VII, 1 (IXth to Xth Dynasty). Compare an impression on a sherd of imported ware at Troy, dated Troy II b (Blegen *et al.*, *Troy I*, fig. 408).

⁴² Petrie, *Buttons*, pl. II, 118-123, pl. V, 359. Compare also such Cretan seals as Evans, *Scripta Minoa*, I, p. 136, fig. 78, e and g, which Evans (*J.H.S.*, XIV, 1894, p. 328) derives from XIIth Dynasty scarab designs.

solving them, but I believe that it makes plain certain general conclusions about the relation of the Lerna seals to the Cretan. For the establishment of chronology these relationships provide little solid ground; the best basis for dating the Lerna seals is the stratigraphy of the site itself. But stylistically the seals form a closed group with certain marked characteristics—circular form, symmetry, geometric designs—which find close parallels in only a few of the Cretan seals. As a whole, the group from the House of the Tiles may be taken as representative of an independent and perhaps local school of seal cutting, recognizable also in the impressions from Asine. It is certainly possible that the Lerna jars and boxes were imported from elsewhere (we know that Lerna had considerable trade connections in the Middle Helladic period, and probably earlier as well), but it seems unlikely that containers of such variety of shape and presumably of contents were imported from one and the same place. In any case, whether the containers held imports or goods locally manufactured, the clay which secured them was almost certainly applied and stamped at Lerna. In no other way can we account for the uniformity in seal designs and for the fact that the same seal was sometimes used to mark containers of more than one type.

It may be possible by further study to demonstrate a close connection between one school, or workshop, of Cretan glyptic⁴³ and the school of mainland work represented by the Lerna impressions. The majority of the Cretan seals would fall outside of this school; they tend towards a freer, more naturalistic scheme of composition which occupies, very often, a form other than the circle. The whole field of early Cretan glyptic will require a strict stylistic analysis before this suggestion can be properly defined. The stamp seals throughout the wider areas of Egypt and the Near East also need study in order that the nature of the more distant relations between these classes and those of the Aegean may be determined as closely as possible.

⁴³ Sealings found at Monastiraki in Western Crete (Matz, *Forschungen auf Kreta* 1942, 43.1, 38.1, 38.3), dated M. M. I-II, show impressions of circular seals with geometric designs. I have not seen the impressions from Phaistos, which Levi dates M.M.I (*Bollettino d'Arte*, 1956, no. III, fig. 46, a, pp. 264-266). They include human, animal, and pictographic designs as well as geometric ones.

CONCORDANCE OF NUMBERS

<i>Inventory</i>	<i>Catalogue</i>	<i>Inventory</i>	<i>Catalogue</i>	<i>Inventory</i>	<i>Catalogue</i>
L3.10	36	L4.393	90	L4.442	51
L4.345	12	L4.394	110	L4.443	106
L4.346	21	L4.395	130	L4.444	43
L4.347	13	L4.396	91	L4.445	31
L4.348	66	L4.397	129	L4.446	32
L4.349	107	L4.398	41	L4.447	33
L4.350	137	L4.399	103	L4.448	34
L4.351	119	L4.400	42	L4.449	116
L4.352	53	L4.401	1	L4.450	135
L4.353	108	L4.402	2	L4.451	79
L4.354	54	L4.403	3	L4.452	93
L4.355	55	L4.404	4	L4.453	109
L4.356	56	L4.405	5	L4.454	133
L4.357	78	L4.406	6	L4.455	140
L4.358	8	L4.407	128	L4.456	49
L4.359	9	L4.408	123	L4.457	50
L4.360	7	L4.409	38	L4.458	138
L4.361	—	L4.410	35	L4.459	139
L4.362	14	L4.411	39	L4.460	67
L4.363	15	L4.412	124	L4.461	75
L4.364	16	L4.413	10	L4.462	97
L4.365	17	L4.414	40	L4.463	74
L4.366	18	L4.415	100	L4.464	115
L4.367	19	L4.416	11	L4.465	82
L4.368	20	L4.417	125	L4.466	136
L4.369	58	L4.418	127	L4.467	131
L4.370	28	L4.419	37	L4.468	80
L4.371	29	L4.420	98	L4.469	81
L4.372	59	L4.421	99	L4.470	105
L4.373	60	L4.422	73	L4.471	114
L4.374	61	L4.423	92	L4.472	141
L4.375	62	L4.424	104	L4.473	120
L4.376	63	L4.425	117	L4.474	95
L4.377	64	L4.426	132	L4.475	96
L4.378	65	L4.427	86	L4.476	142
L4.379	94	L4.428	77	L4.477	126
L4.380	113	L4.429	72	L4.478	68
L4.381	134	L4.430	52	L4.479	69
L4.382	111	L4.431	101	L4.480	70
L4.383	112	L4.432	102	L4.481	143
L4.384	25	L4.433	71	L4.482	88
L4.385	26	L4.434	45	L4.483	83
L4.386	27	L4.435	46	L4.484	84
L4.387	30	L4.436	47	L4.485	85
L4.388	—	L4.437	44	L4.486	—
L4.389	22	L4.438	76	L4.487	121
L4.390	23	L4.439	57	L4.488	122
L4.391	24	L4.440	118	L5.1	48
L4.392	89	L4.441	87		

MARTHA C. HEATH

INSCRIPTIONS OF KARPATHOS

(PLATE 29)

1 (Pl. 29). An inscribed marble shield, built into a wall of the administration building at Pigadia (officially "Karpathos"). On the shape, cf. P. Jacobsthal, *Diskoī* (Winckelmannsprogramm 93, Berlin, 1933), pp. 23-26.

Diameter, about 0.30 m.; visible thickness of shield at boss, about 0.045 m. Height of letters (slight serifs), 0.025 m. Distance between lines, 0.015 m.

Δάμων
Αἰσχύλου
καθ' ὃ (οἰσεῖαν δὲ)
Ναυφιλίδα
Ῥογκίδας
θεοῖς

The stone was most probably found at Pigadia, though one local informant thought it had come from the island of Saria (ancient Saros). The demotic *Rongkidas* shows that the dedicator was from Kamiros. Inscriptions on shield shaped stones were particularly popular there as records of military offices; cf. the collection in M. Segre and I. Pugliese-Carratelli, *Tituli Camirenses* (*Annuario*, XXVII-IX, 1949-51), Nos. 66-78c, and *Tituli Camirenses, Supplementum* (*Annuario*, XXX-XXXII, 1952-54), No. 78d.¹ When specified the gods are Hestia, Hestia with Zeus Teleios or Soter, and, once, Zeus Polieus and Athena Polias; one inscription evidently refers to no divinity (*Tit. Cam.*, No. 78a). But aside from those which are quite fragmentary, none seem to omit the office as does ours, and since several different military offices are mentioned on these shields, the exact position could not be inferred from the character of the inscription. Was it set up near a decree honoring Damon? As many as five of the shield inscriptions may refer to the office of ἐπιστάτας ποῦ περιπολίου (*Tim. Cam.*, Nos. 66, 67, 68, 69, 71; Nos. 69, 71 can be restored to specify ἐν Καμίρῳ, but this is not certain), and we have a decree of the κτοῖνα ἁ Ποτιδαίεων (located at Pigadia) honoring a Rhodian officer for his defense of their community, including the *peripolion* (*I.G.*, XII, 1, 1033; *S.I.G.*³, 570).² In fact, the

¹ Two others, which cannot be traced to Kamiros, are listed by Jacobsthal: No. 3, from Kos, W. R. Paton and E. L. Hicks, *Inscriptions of Cos*, No. 67 (*S.G.D.I.*, 3655); No. 4, of unknown origin, *C.I.G.*, II, 2654.

² Cf. M. Segre, *Riv. di Filol.*, LXI, 1933, pp. 379 ff., probably a similar but earlier decree honoring the same man. On the location of the *ktoina*, cf. L. Ross, *Reisen auf griechischen Inseln des Aegeischen Meeres*, III, Stuttgart, 1845, pp. 56 f.; the identification rests primarily on the

demotic of this officer, Pamphyllidas, son of Hieron, is *Karpathiopolitas*, but it was certainly a Rhodian appointment (cf. lines 30-31). It is possible, then, that Damon had been in charge of the defenses of Potidaion, had been honored by the *ktoina*, and recorded his thanks to the gods on the customary Kamirian shield.

An Aischylos occurs on a shield inscription (*Tit. Cam.*, No. 78b), and an Aischylos, son of Aischylos, with the demotic *Rongkidas*, was *damiourgos* in the first century A.D. (*Tit. Cam.*, No. 3, Δ c 46).

2. Fragment of blue marble, broken on all sides, found in the retaining wall of a vineyard about 30 m. from the sea, about 1 km. north of Pigadia. Potsherds, worked blocks (one with a cross carved upon it), and a carved leaf (0.085 m. by 0.045 m.) of late Roman or early Byzantine style but of the same stone as this inscription, were found near by. A Christian site in this area could account for their presence, including this inscribed fragment which appears to be pre-Christian, and very likely pre-Roman, in date.

Maximum height, 0.14 m.; maximum width, 0.10 m.; maximum thickness, 0.15 m. Height of letters (carefully cut, slight serifs), 0.014 m.; distance between lines 0.015 m.

— — Ε(vel Σ, Ξ) ΙΔ[.] ΠΜ(vel Υ) —
 — — — ΑΔΟ. —
 — — — . . — — —

At the beginning of line 1, the lower right tip of Ε, Σ or Ξ, and at the end of the line the upper left-hand corner of a slightly curved Μ or Υ as indicated. At the end of line 2, traces of two, perhaps three, vertical hastae. In line 3, under the Α and Δ of line 2, the top horizontal bars of two letters are visible.

3. A blue marble stele, serving as the lintel of the door to the church of Christos at Πίνι, about 1.5 kilometers northwest of the village of Volada. This is the place from which came the most interesting inscription from Karpathos, *I.G.*, XII, 1, 977 (*S.I.G.*³, 129; Tod, *Gr. Hist. Inscr.*, vol. II, No. 110), referring to the Eteokarpathians. The present inscription is on the smooth underside of the lintel. The back of the stone was left rough. There is a moulding at top and bottom.

Height, 0.82 m. (height of inscribed area, 0.66 m.); maximum width, 0.31 m.; thickness, 0.073 m. Traces of some five lines, starting 0.52 m. from the top of the inscribed area and ending 0.045 m. from its bottom. Height of letters, about 0.015 m. Distance between lines, 0.007 m. Dots indicate the most probable forms judging by traces visible on the stone, and are not offered in an effort to make sense of the text.

survival of the place name in the form Ποσίον, but is supported by a number of other considerations. The writer is preparing notes on the island's topography.

– ΜΕΝΙΩΚΩΣΣΑΡΔΙΑΝ[.]Ζ –
 – ΑΡΤΕΜΙΣΙΑ[.]ΚΕΛΛ(vel Ζ)ΙΝ – –
 – ΕΧ(vel Μ)ΙΝ. – – – – –
 – ΜΕ – – – – –
 – – – – – ΙΝΝΑΣ – – – –

Line 3: after Ν, a vertical hasta.

4. (Pl. 29). Marble plaque (broken into two pieces) in the schoolhouse at Pigadia (in 1954), found at Lefkos, the district on the west coast of the island, belonging to the village of Mesochorion, and across from the medieval fortifications on the small island of Esokastron.

Height, 0.41 m.; width, 0.557 m.; thickness, 0.063 m. Height of letters, 0.02 m. Wide, curved *mu*; slightly curved bar on the *alpha*; *upsilon* quite flat. Distance between lines, 0.01 m. The last word, the only word in line 9, is centered. Five iambic trimeters, metrically rather free (cf. Κρήτες in line 7), are distinguished by punctuation.⁸

Ε [.] ΣΟ(vel Ω) [?] Λ(vel Α,Δ) ΙΕ[.] ΤΕΛ(vel Α,Δ) [3-7]
 ΡΩ [.] ὑπέρτατος \ ΩΣ [-7]
 ζωοῖσιν ἥς μακάρτατο[ς \]
 Τειμόδικε πινυταῖς [ὑ -]
 5 πτιασμένε φρεσίν \ ὥς γάρ
 τε Μείνως καὶ Ῥαδάμαν –
 θυς οἱ Κρήτες \ αὐτοῦ
 παρὰ θρόνοισιν ἐδράσης
 δέμας

Line 2: e. g., ὥσ[περ δ' ἐνι], which, though slightly crowded, agrees with traces of the first two missing letters—two vertical hastae, and the horizontal bar at the top of a letter.

Lines 6-8: cf. Peek, *Griechische Vers-Inschriften*, I, No. 699, line 4, Μίνω σύνθωκος δ' εἰμί. Cf. *ibid.*, No. 642, line 6, σύνθρονος εὐσεβέσιν.

Lines 8-9: ἐδράσης = ἐδράσεις; or possibly, ἔδρας <σ>ῆς δέμας = ἔδρα σή.

MICHAEL JAMESON

UNIVERSITY OF PENNSYLVANIA

⁸ Cf. Peek, *Griechische Vers-Inschriften*, I, Nos. 653, 1737, etc.

EXCAVATIONS AT LERNA, 1957

(PLATES 30-40)

THE present series of campaigns at Lerna, conducted annually since 1952 by the American School of Classical Studies, was concluded in the summer of 1957.¹ A limited amount of new digging was carried out in order to verify or correct certain of our earlier observations, and an important section of the Early Helladic fortifications was discovered and cleared. Concurrently, steps were taken to preserve a number of the architectural remains throughout the excavated area and, through a modest amount of restoration, to make them more readily comprehensible. Preliminary work began on June 20, excavation occupied the six weeks from July 1 to August 10, and the program of conservation was completed by stages, continuing into October.²

In this season's work we again enjoyed the cooperation of the Ephor, Mr. Verdelis, and of Miss E. Protonotariou, Epimeletria, who came frequently from her post in Nauplia to lend assistance and advice. Special thanks are due also to the French School for the loan of their portable photographic tower and to colleagues of the Agora Excavations for many services. A grant by the American Philosophical

¹ Preliminary reports and illustrated notices of discoveries during the previous two years have appeared in *Hesperia*, XXV, 1956, pp. 147-173 (with references to earlier reports, p. 147, n. 2); XXV, 1956, pp. 175-177; XXVI, 1957, pp. 142-162; *B.C.H.*, LXXX, 1956, pp. 266-270; LXXXI, 1957, pp. 538-543; *J.H.S.*, LXXVI, 1956, Suppl. pp. 12-13; LXXVII, 1957, Suppl. pp. 9-12; *A.J.A.*, LXI, 1957, pp. 182-183; *I.L.N.*, 12 Jan. 1957, pp. 68-71.

² Excavation was supervised throughout the campaign by Mrs. Caskey and Miss Martha Heath and for a fortnight by William Donovan. Lloyd Cotsen came from America for the summer to serve a fourth term as field architect. J. L. Caskey had general charge of the activities. Several other colleagues visited the site and lent valuable assistance. Professor J. L. Angel stayed with us for a week in the course of his anthropological studies; Miss Alison Frantz came to Lerna and took an important series of photographs of the site; Colin Edmonson, Secretary of the School, made repeated trips from Athens and relieved the Director of many pressing duties. A force of 20 to 25 workmen was employed, with Evangelos Lekkas as foreman. Andreas Totsikas supervised the domestic establishment at Myloi, where the staff was housed as in preceding seasons.

Throughout the year 1956-57, between campaigns in the field, there was continuous activity in the workrooms of the Corinth museum where the material from Lerna is temporarily housed. Each of the excavators recorded and classified the pottery and other objects recovered from the area of which he had been in charge, while the cleaning, mending, and restoring was carried out by George Kachros and his assistants, Spyros Marinos, Nikos Didaskalou, and Sotiris Maras. A special word of recognition is owed to Miss Elizabeth Courtney, Fellow of the School, for assuming the burden of organizing and supervising the greater part of this work, arranging the collections, and maintaining the inventories and other records. In these tasks she had the collaboration of Mrs. William Eliot and of George Bass. Miss Helen Besi generously assisted in working on the pottery, and Miss Davina Best (now Mrs. George Huxley), a member of the British School, made an extensive series of profile drawings. Before excavation was resumed in 1957, the inventory of pottery numbered 1357 pieces, that of miscellaneous objects 3806.

Society enabled Miss Heath to take part in the summer's campaign and to continue her study of Early Helladic sealings. During the current academic year she holds a fellowship of the American Association of University Women.

EXCAVATION

MIDDLE HELLADIC AND FINAL EARLY HELLADIC LAYERS

A short balk of earth, 1.50 m. wide, was left standing between Areas BD and BE in 1956 (Square F 6; *Hesperia*, XXVI, 1957, p. 144, fig. 1) in order to expose samples of the stratification for observation on either side (Pl. 32, b). Having served its purpose, this projection was taken down in 1957 and the northern border of the excavated area was thus left straight and unbroken. Digging in this section, which we labelled BF, was supervised by William Donovan.

Between the surface, 7.45 m. to 7.65 m. A.T., and the tumulus and debris of the House of the Tiles (*Hesperia*, XXV, 1956, pp. 164-165), remains assignable to nine building periods were observable in deposits having a total depth of 2.30 m. The sequence corresponded with that recorded previously in the areas to east and west, and provided a useful stratigraphical review of the whole region. At the top there was evidence of late intrusions, then walls of successive Middle Helladic houses, most of which showed signs of burning and yielded fragments of clay roofing that had been solidified in the fires. The east side of one rectangular room was well preserved (Pl. 32, a). The socles of its walls had irregular orthostates at the bottom and flat slabs laid horizontally at the top to receive the superstructure of clay or crude bricks. Successive earthen floors in the room showed that it had been occupied over a considerable period of time.

A street ran north and south through this region, following very nearly the same lines through various successive phases from the time when the latest types of Early Helladic pottery were plentiful until the Middle Helladic styles were well established.

Walls and floors assignable to the settlement that succeeded the destruction of the House of the Tiles were found around 5.20 m. to 5.50 m. A.T., sloping downward toward the northeast, away from the higher ground of the tumulus. Here, as elsewhere at this level, many bothroi were associated with the houses. There were also numerous small irregular structures of yellow clay, with shallow depressions and low barrier walls, the purpose of which has not yet been explained. Below the debris of these houses we came upon some of the rounded stones that made up the border of the tumulus, and under these in turn vast numbers of broken tiles in the ruins of the fallen palace.

A few additional stones of the ring were uncovered west of section BF when excavation was resumed in Area BD (*Hesperia*, XXVI, 1957, p. 152). Remains of

the final Early Helladic phases were investigated here and in Area BC, west of the House of the Tiles, the various deposits being removed until the original ground-level outside the building was exposed. Miss Heath was in charge of the work in this sector, with collaboration by J. L. Caskey for a limited period at the start. Further structures of yellow clay, including the rest of a massive complex noted in 1954 (*Hesperia*, XXIV, 1955, p. 36), were revealed in strata immediately succeeding the tumulus, outside its precinct. The first house walls that passed over the ring of stones are to be dated a little later.

The floor of Building BC. 15 (Fig. 1) was tested again in several places. It yielded a good amount of broken pottery, especially at the south end, where a small cross-wall came to light, but not a sherd of Minyan ware or other fabrics of the Middle Helladic period, only "Smear ware" and fragments of coarse jars and pithoi. We conclude therefore that this large apsidal building, lying 0.50 m. to 0.80 m. higher than the House of the Tiles, must be assigned to the latest phase of the Early Bronze Age.

Short trenches were dug in the northeastern part of the main area to test the strata immediately north of House M and beneath the floor of Room AR (Fig. 1). Early stages of the Middle Helladic occupation were represented by the objects found here. A pit grave containing two skeletons, presumably assignable to one of the later phases, was discovered directly under AR.

THE HOUSE OF THE TILES

The Early Helladic palace received much of our attention throughout the campaign of 1957. All the remains of the great structure, which had been excavated section by section and then covered at the end of each season with a protective sheathing of stones and earth, were completely exposed for the first time this year. The clearing was a long task, full of anxiety on more than one occasion when unseasonable rainstorms came up suddenly in the latter part of June. Clay, crude brick, and plastered surfaces would have been damaged irreparably in a few moments at those times had it not been for speedy action on the part of the architect and the foreman, who saved the vulnerable parts of the walls by improvising a cover with strips of tarpaper.

After a thorough cleaning and scraping the whole building was remeasured, a new plan was drawn, many details were recorded, and a series of photographs was taken. General views from different angles are presented here on Plates 30 and 31 and further details on Plate 39, a and b.

Most of the remaining mass of fallen debris which we had left in place in Room XII (*Hesperia*, XXV, 1956, p. 166, fig. 5) was cut away in order that this principal room might appear to better advantage, but two small pinnacles were preserved to show the bricks, clay, and broken tiles as they lay. On the newly cleared part of the floor we found a mass of lead, melted in the fire, and further traces of burnt timbers.

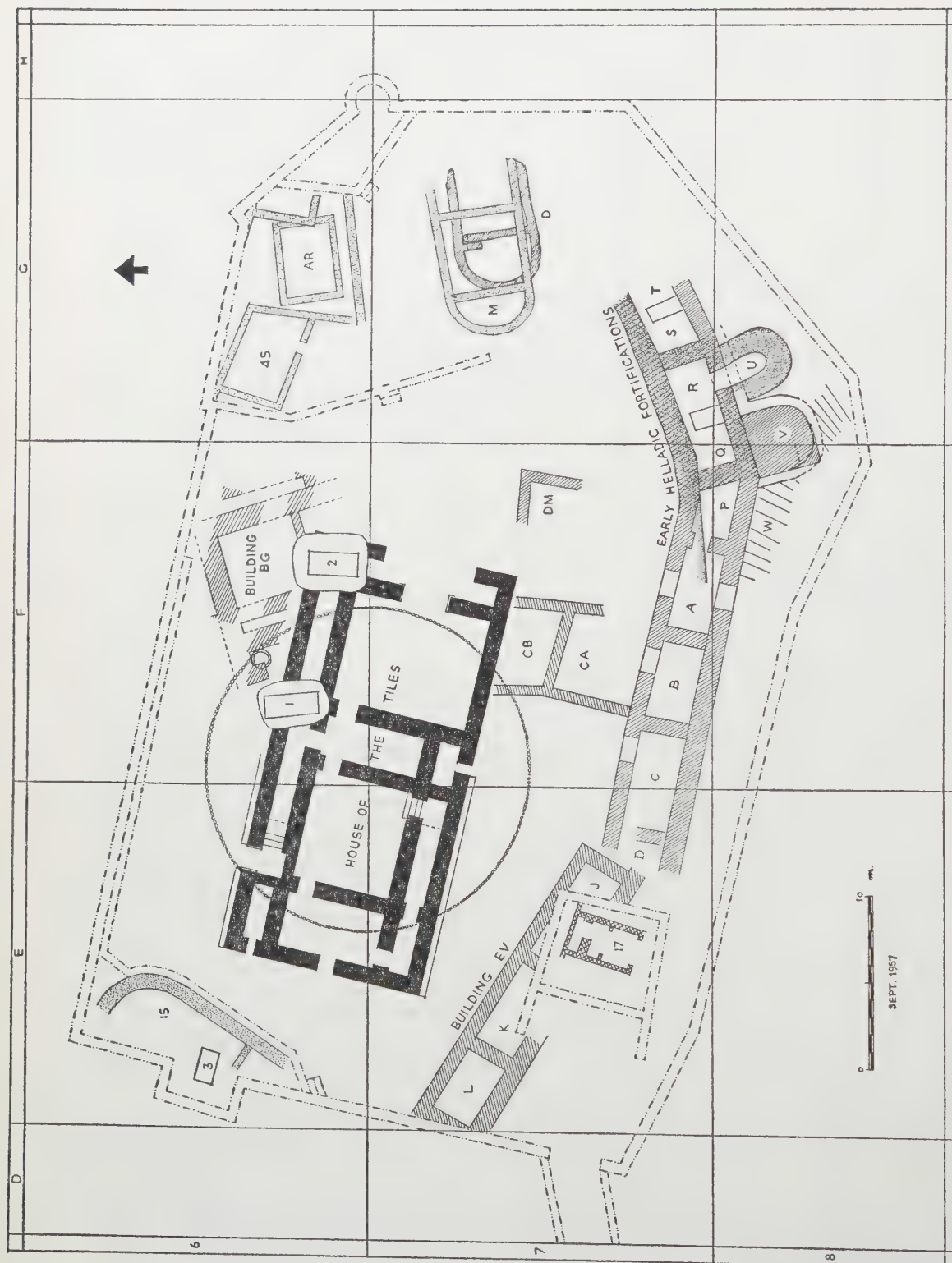


FIG. 1. Lerna, 1957. Plan of Buildings in the principal area of excavation. Modern Enclosure and Retaining Walls shown in broken and dotted lines. House 17, Neolithic; A-D, J-L, P-T, Compartments in Early Helladic Defensive System; U, V, Towers; W, Stairway; BG, CA, CB, DM, Early Helladic Buildings preceding the House of the Tiles; Building 15, late E.H.; Houses 45, AR, M, D, Middle Helladic; 3, late M.H. Grave; 1, 2, Shaft Graves, late M.H. and L.H. I. (Survey by L. E. Cotsen; drawing revised by Aliki Bikaki.)

The two corridors, III and IX, were also examined with care in a search for further information about the staircases. Soft pockets, possibly marking the position of wooden uprights, and the base of a brick platform were discovered in the southern corridor west of the stair landing. Evidence in the northern passage was inconclusive.

A thorough re-examination of all the wall surfaces within the building brought out an interesting fact. Differences had been obvious from the time when the various parts of the building were uncovered, the walls in some of the western rooms showing a surface that had been deliberately corrugated with a comb-like instrument³ whereas the north vestibule, II, had smooth walls and Room XII a fine hard plaster that resembled stucco. In a few places where these smoother finishings had crumbled or flaked off we were able this year to distinguish traces of the combed layer underneath. The corrugated surface, we now believe, was nowhere designed to be left exposed; it presents an interesting and not unpleasing pattern but for practical purposes it is much too friable. Therefore one must conclude that Rooms V-VII, and probably all the north and south corridors (III-IV, VIII-IX), were unfinished at the time of the destruction. That being the case, was the whole building undergoing a periodic re-decoration, or had it never reached completion, being only at an advanced stage of construction, when the catastrophe overtook it? Various bits of evidence make the latter explanation seem not improbable, but further study of the related problems is needed before we undertake to reconstruct its history.

EARLY PHASES OF THE EARLY HELLADIC SETTLEMENT

Strata antedating the House of the Tiles were found this year in seven limited areas of excavation: trenches in the western section, Squares E 6-7; sounding-pits BD and BE north of the palace in Squares E 6 and F 6 respectively and AP in the northwestern part of Square G 7; two long trenches, HTN and HTS, that bordered the north and south walls of the palace; and a somewhat larger space to the southeast, around the junction of Squares F-G 7-8. Only the last of these provided a comprehensive view of an architectural complex, which will be described in a separate section below.

In the smaller pits and trenches, which were excavated by Mrs. Caskey and Miss Heath, there was abundant evidence of long-continued occupation in the earlier stage of the Early Helladic settlement. The deposits were not exceedingly deep, nor were all the strata preserved continuously. They could not be precisely equated and correlated from one sounding to another, since grading and levelling at various times had taken away the remains of one or more phases. But the walls encountered were big, some belonging certainly to monumental buildings, and the fact that the ground had been specially prepared for them testifies to more than ordinary care and planning.

³ *Hesperia*, XXIII, 1954, p. 25, pl. 4, c; XXIV, 1955, p. 39.

Large structures assignable to two phases immediately preceding the House of the Tiles were noted in Area BC but could not be investigated since they extend westward beyond the limits of our operations. Pit BD and the western end of Trench HTN yielded evidence of two to four Early Helladic phases between the level of the palace and the top of undisturbed Neolithic deposits. More substantial remains came to light in Pit BE and the eastern end of HTN. Immediately below the palace level one stratum had been largely obliterated, but under it there was a complex of massive walls, 0.80 m. to 1.20 m. in thickness, aligned in a different direction from that of their successors and apparently representing a huge building that had itself gone through two or three stages of alteration or reconstruction. The position of these big stone walls is shown in Figure 1 with the designation BG. They are socles that once held superstructures of crude brick. The earliest are based in footing trenches that were cut into the underlying Neolithic layer; and the first floors lie in some places directly upon the pure Neolithic deposits. It seems almost certain that debris, including probably a good many remains of the initial Early Helladic phases, was cleared away to make room for this important structure.

In one of the rooms of Building BG, crossed by Trench HTN, Miss Heath came upon a remarkable vessel of baked clay, approximately circular in shape and 1.15 m. in diameter. It had been broken and pieces had been lost in later building operations, but the greater part lay in situ (Pl. 32, c, d). This was a stationary object, probably constructed on the spot and hardened by the fires that were lighted in it. All the exposed surface was smoothed, but the under surface shows the rough irregularities of the bedding on which it was fashioned. Surrounded by a broad rim that bears a decorative pattern of many incised zigzag lines, it has a floor that is flat at the sides but recessed in the center. The cavity is shaped like an hourglass or the head of a great double axe, narrow at the mid-section and spreading at either end, one slightly broader than the other. Bordering the edge of the depression is a band of impressed triangles. When found, the whole interior was packed and incrustured with fine gray and white ash.

But for the central hollow, this vessel resembles certain of the flat-rimmed "baking pans" that have been observed at other Early Helladic sites.⁴ Fragments of many similar pans, decorated and plain, some apparently round, some irregular in outline, have come to light in the House of the Tiles and in earlier strata at Lerna. The elaborate form of the present example suggests that it served more than a purely utilitarian purpose. We suppose that it may have been a ceremonial hearth, perhaps the center of some domestic religious observance, the place where fire was kept continuously alive. The fragments were removed from the ground and are being incorporated in a complete reconstruction of the vessel, the missing parts being filled out in plaster.

⁴ C. W. Blegen, *Zygouries*, pp. 121-122, fig. 114, Nos. 1, 3, 4; H. Goldman, *Eutresis*, pp. 18-19, fig. 16, pp. 106-109; O. Frödin and A. Persson, *Asine*, p. 231.

Trench HTS, excavated by Miss Heath along the south side of the House of the Tiles, yielded remains of six Early Helladic strata below the debris and ground level of the palace. In two of these phases streets crossed the area. They were irregularly paved with pebbles and larger stones, and a well-constructed channel, presumably for drainage, ran in the center of one of them. In five of the strata there were walls of buildings, the largest of which, corresponding probably in date to Building BG in Square F 6, appeared in the earlier phases. Bothroi, including a remarkably deep one lined with red clay, were also found in association with these lower strata. Thus Trench HTS, although too narrow to give a comprehensive view of architectural remains, provides useful confirmation of the sequences observed further southward and southeastward in Areas J and G (*Hesperia*, XXV, 1956, pp. 166-169). The various stages of building in this region followed one another without interval. Walls were demolished and debris was certainly cleared away on numerous occasions, so that the strata are now thin, but not so many have been altogether obliterated as in the area north of the palace.

Further evidence of this long succession of building periods in the early stages of the Early Helladic settlement was furnished by the sounding called AP in Square G 7 northwest of House M (Fig. 1), excavated by Mrs. Caskey. The pit, aligned roughly north and south, was just over four meters long and two meters wide. Five Early Helladic phases were represented, one exceptionally big wall having stood through two or three of them. The various strata here were irregular. At the south end of the pit the sequence was clearly discernible and pure Neolithic deposits were found below the first Early Helladic, around 2.35 m. A.T. On the north, however, a tremendous mass of mixed filling went down at least to 0.65 m. A.T., where we reached standing water and had to stop digging.

The deep probings that have now been made in various parts of the site give some indication of the configuration when the Early Helladic settlers first established themselves. Trench C in Square E 5 produced Early Helladic pottery down to 2.05 m. A.T., where excavation was stopped in 1952 (*Hesperia*, XXIII, 1954, p. 20). In Area D (Square H 5) we encountered only Early Helladic remains at water level, 0.75 m. A.T. (*Hesperia*, XXV, 1956, p. 152). Debris of habitations continued still lower, but very little if any of the Neolithic settlement can have extended that far eastward. In the northern part of our main area, Squares E-F 6, there was a relatively high plateau or ridge running east and west, made up of unmixed Neolithic deposits, which we have found around 4.45 m. and 4.10 m. A.T. in Areas BD and BE. South of this, under the House of the Tiles (*Hesperia*, XXVI, 1957, p. 153) and eastward through our Pit AP, there seems to have been a deep gully which the Early Helladic newcomers, not immediately but probably soon after their arrival, filled with earth and stones that they took from some other part of the site. This, we believe, is the only reasonable explanation that can be given of the tremendously deep mass of mixed

and unstratified filling, containing principally Neolithic pottery but a few sherds of the older Early Helladic fabrics, which we have encountered along this line. Moving further south again, one finds another east-west ridge in Area J (Square E 7), where Neolithic remains lay intact as high as 4.30 m. A.T.; and beyond this another sharp drop, presumably the edge of the area inhabited in the Stone Age, where again the Early Helladic people increased the area of level ground by dumping great masses of debris over the side of the earlier bank (*Hesperia*, XXVI, 1957, p. 155, fig. 5, stratum 14).

Pottery and other objects from the oldest Early Helladic deposits are now being studied. Clearly this was one period of gradual unbroken development; down to the age of the House of the Tiles, and there are no sudden changes in the types of domestic equipment used, but even a preliminary inspection reveals certain differences. In the earliest strata we find more examples of red-slipped ware, the surface tending to split off, as at Zygouries;⁵ iridescent black glaze ("Early Helladic *urfirnis*") of good quality is used on many vessels and is more thickly applied than in subsequent phases; medium-sized bowls with rims canted inwards occur more frequently than the later small bowls and plain saucers; bodies of sauceboats are broad and open, their spouts tending to be shorter and more nearly horizontal than in the subsequent stage of development.⁶ Pots with painted patterns are very rare. A few fragments of incised and burnished vessels, probably Early Cycladic lids or "frying pans," were discovered in the lowest Early Helladic strata this year (Pl. 35, d-f).⁷

EARLY HELLADIC FORTIFICATIONS

Long narrow buildings, called provisionally G and EV, have been described in foregoing reports as they emerged bit by bit during the annual campaigns of excavation.⁸ It was noted that they bordered the southern edge of the inhabited area and that they were assignable to phases of the Early Helladic establishment preceding the House of the Tiles. We surmised that they might be parts of a system of outworks surrounding the entire site, but we were not inclined to believe that they were designed for military purposes.

A further segment of the circuit, extending eastward from Building G and bending toward the north, was uncovered in 1957 by Mrs. Caskey. This greatly

⁵ C. W. Blegen *Zygouries*, pp. 77-78, pl. V (Class A II).

⁶ Cf. sauceboats from the Cyclades, e. g. those found by Tsountas in Syros, *Ἐφ. Ἀρχ.*, 1899, pl. 9, nos. 8, 9 (the former well illustrated in C. Zervos, *L'Art des Cyclades*, fig. 190). A pertinent summary of the typology is given by Esther Smith, *Hesperia*, XXIV, 1955, pp. 145-146.

⁷ d. Inv. L. 1386; L. of sherd 0.055. Red burnished ware.

e. Inv. L. 1443; L. of sherd 0.07. Brown slipped ware.

f. Inv. L. 1448; H. 0.041. Dark gray ware, probably slipped.

⁸ *Hesperia*, XXIII, 1954, p. 27; XXIV, 1955, pp. 41-46; XXV, 1956, p. 167; XXVI, 1957, pp. 153-156.

strengthens the probability that buildings of the same kind did in fact form a complete ring; but—still more important—the new stretch of walls was found to have projecting towers, the purpose of which can only have been to defend the place against attack by enemies. Therefore we must revise our former conjectures and recognize that Lerna at this time was a fortified citadel.

The newly excavated section of the complex appears on the plan, Figure 1, around the adjoining corners of Squares F-G 7-8. Two walls, labelled AZ and BA when they were found in trial trenches in 1956 (*Hesperia*, XXVI, 1957, p. 144, fig. 1), are now seen to be continuations of the north and south walls of Building G. The space between them is about two meters in width and is divided by cross walls into compartments, which were used as living quarters (Pl. 33, a). Retaining the former designations A, B, C, and D for the rooms in Building G, we are labelling the new ones P, Q, R, S, and T. The partition walls between P and Q and between R and S are early parts of the structure. They run straight across, completely closing the units. Spur walls between Q and R and between S and T, which are later additions, join the main south wall but leave narrow passageways at the north. A part of the north wall in its earliest form, which in the later stages fell out of use and was covered over, is seen extending in a line slightly south of west through Room P and into Room A. South of Room R and connected with it by a doorway is a hollow tower, U (Pl. 34, a, b). Just west of this, south of Room Q, there is a second tower, V, which succeeded the former after one of the reconstructions. A flight of steps, W, composed of overlapping flagstones, rises from the plain, passes under the corner of Tower V, and runs in a northwesterly direction up toward the entrance gateway in Room A (Pl. 34, c).

All this building and rebuilding obviously occupied a long period of time, coeval undoubtedly with many of the architectural phases that have been distinguished in various parts of the settlement. Further study of the evidence may make it possible to correlate these stages with considerable accuracy. The building of enclosure walls probably began quite early in the Early Helladic occupation; it is certain that the last version of the fortifications in this series was demolished before—perhaps only just before and in conjunction with—the erection of the House of the Tiles. In the present report we can give only a brief summary of our preliminary observations.

In the first stage there was apparently a single wall with a good outer face toward the south. This is represented by the remains that have been found under Rooms A and P and running thence eastward some 12 m. to the end of the area excavated. No further parts have been recognized west of the place where the wall gives out irregularly in Room A. It is built of stone and its northern face is uneven. Clearly it was a retaining wall, at least in its lower courses, designed to bound and support a raised terrace on the north. The superstructure, none of which has been preserved, was probably made of crude brick.

The next phase is marked by the addition of a rectangular projection, Room Q-R, and the horseshoe-shaped tower U. These seem certainly to have been built at the same time. The stone socles of the oblong room are bonded with those of the tower, the masonry throughout showing a distinctive herringbone pattern. The upper parts of the walls of Room Q-R were of crude brick, several courses of which have been preserved in place (Pl. 33, b). This phase ended in a fire, which hardened the bricks and presumably accounts for the number of whole pots that were hastily abandoned on the floor. Among the latter are numerous small saucers, a bowl with a low pedestal-foot, coated streakily with a creamy wash ⁹ (Pl. 35, b), a sauceboat, an askos, one large and one small jug, a large closed jar, and fragments of a big basin and a broad low pan. A jug ¹⁰ (Pl. 35, c) lay inside Tower U. A squat jar ¹¹ (Pl. 35, a), found somewhat higher in the debris, may belong to this phase or to the occupation that followed the reconstruction.

In these early stages the stairway was installed, passing the flank of the rounded tower. It is a fine piece of masonry, carefully constructed and scarcely less than monumental in character (Pl. 34, d). Presumably it led to a gateway that now no longer exists; several of the flagstones partly underlie the south wall of Rooms P and A, which must therefore have been built later.

Construction of this outer, southern, wall and perhaps the whole western extension with its compartments A-B-C-D may be assigned provisionally to the third phase. Tower U was demolished, its walls were taken down, and the doorway to the inner room was blocked. Evidently the tower had been badly damaged. Some of its stones were left lying where they had fallen (Pl. 33, a, lower left). It is not clear what useful purpose had been served by the narrow open space inside; hollow towers are usually provided with loopholes for the shooting of arrows or other missiles, but here the walls are so thick and the interior so cramped that one could scarcely draw a bow or aim a shot. The new tower, V, was in any case differently constructed, having a massive podium of solid stone masonry.

This second tower, clearly later than U and later than the stairway which now went out of use, itself passed through several stages of alteration. At first it seems to have been rectangular, projecting 2.50 m. southward from the curtain wall; a part of the original face is visible through an opening among the stones on the west side and its position is indicated by a broken line on our plan. Then the podium, still rectangular, was extended some 1.30 m. outward. The shape of the superstructure at that time cannot be determined. We suppose that it too was angular. In its next phase, however, the outer end of the tower was rounded, and at some time thereafter,

⁹ Inv. L. 1434; H. 0.143, D. 0.198.

¹⁰ Inv. L. 1430; H. 0.169, D. body 0.149.

¹¹ Inv. L. 1400; H. 0.178, D. 0.265.

perhaps immediately, a bolster of stones was laid about its foot and along the base of the curtain eastward (Fig. 1; Pl. 34, a).

The straight line of the main wall ran west from Tower V past the gateway in Room A and onward for a considerable distance. The remains die out at Room D, where the Early Helladic ground-level was higher and the stones were more easily removed for re-use in later buildings. Still farther westward in the same direction, however, great masses of burnt ruins, again at a lower level, were observed in 1956 (*Hesperia*, XXVI, 1957, p. 156). Little could be made of them at the time, but the few lines of masonry that could be seen in place correspond well enough with the orientation of the south curtain (Building G) and we are now inclined to believe that they represent another tower, contemporary with Tower V. Some disaster overtook it, and instead of rebuilding on the same place the architects chose to draw the whole line of the wall inwards onto higher and firmer ground. This latest segment of the fortifications is what we have called Building EV, with its compartments J, K, and L (Fig. 1).

Returning to the complex at the southeast, one finds that alterations were made here too in the fourth and final stage. Damage had occurred; several pots found in the debris may be assignable to this period. In the reconstruction the spurs between Q and R and between S and T were added. It is not certain whether the older partitions between P and Q and between R and S were renewed or dispensed with. In the final years of this architectural phase, when Houses CA, CB, and DM were built (Fig. 1), the inner wall of the circuit, north of Q, R, S, and T, seems to have been omitted. A paving of small pebbles was there found covering the old foundations.

We have been fortunate in discovering this extensive part of the fortifications and in coming upon elements that are well preserved. Many of the stone foundations and socles remain in place and even some of the crude brick walls have survived in remarkable fashion. The real superstructure, on the other hand, has of course disappeared, and there is no positive and conclusive evidence on which to base a reconstruction. But the ground plan and the obvious nature of the building limit the possibilities. One cannot be far wrong in assuming that both inner and outer walls were carried up to an imposing height, perhaps six or eight meters or even more, and topped with a platform and a parapet for the use of the defenders. There may have been one or two intermediate floors between the ground-level and the upper platform, providing barrack rooms for the garrison and ample space for storage.

These are the largest, and very nearly the only, fortifications of the Early Bronze Age that have yet come to light on the Greek mainland.¹² Closer parallels are found in

¹² Lower courses of walls that served for defense were discovered by D. Theocharis at Rafina and Askitarío in Attica, *Πρακτικά*, 1953, pp. 105-107, 111; 1954, p. 106; *Έργον τής 'Αρχαιολογικής Έταιρείας*, 1954, p. 13; 1955, pp. 30-31.

the islands: at Aegina,¹³ at Lemnos,¹⁴ and particularly at Chalandriani in Syros and on the hill of Agios Andreas in Siphnos, where Tsountas found double walls with towers.¹⁵ The circuit walls of Troy I and Troy II are also comparable, though different in plan.¹⁶

THE NEOLITHIC STRATA

The space available for investigation of the most ancient settlements has been successively reduced by the discovery of buildings, some monumental in size, some interesting as examples of other architectural types, which required preservation as permanent exhibits. Fortunately a fairly large area in Square E 7, excavated in 1955 and 1956,¹⁷ provided an unencumbered view of Neolithic habitations through many stages and yielded a plentiful sample of stratified material. Since this section fell just at the edge of the mound, however, there remained a possibility that one phase or another might not be represented. Therefore in 1957 three additional deep soundings were made farther north, nearer to the topographical center of the site. Miss Heath excavated Pit BD (Square E 6) to virgin soil and observed Neolithic remains in the adjoining Trench HTN, while Mrs. Caskey tested all the strata a little further east in Pits BE and AP (Squares F 6 and G 7).

Neolithic deposits were found in Pit BD at a maximum height of 4.45 m. A.T. There were no house walls, a fact that may be accounted for by the activity of the Early Helladic builders who evidently levelled the existing ground in various places, as noted above. Shafts of two clay-lined bothroi or storage pits were discovered, and near them the lower part of a plump female figurine with striped decoration¹⁸ (Pl. 36, d, e). The hands rested originally high on the front of the thighs; the arms therefore were presumably free of the body and bent at the elbows.

In Trench HTN only a few meters away the skeleton of a young woman was found in a pit grave at the top of the Neolithic deposits, here around 4.10 m. A.T. The body had been laid on its right side, head to the east; the legs were drawn up, the left arm lay across the waist, and the right arm was doubled against the shoulder. The skull rested on a stone. Beyond it were two bowls set upright, one of plain red clay

¹³ G. Welter, *Aigina*, pp. 8-9 and fig. 9.

¹⁴ D. Levi, *Bollettino d'Arte*, 1952, p. 342, figs. 36, 37; also *Arch. Anz.*, 1935, col. 234; 1936, cols. 154-155, figs. 14, 15; 1937, cols. 167 ff., fig. 18; *B.C.H.*, LVIII, 1934, pp. 263-265; LIX, 1935, pp. 295-297, figs. 48, 49.

¹⁵ *Εφ. Ἀρχ.*, 1899, cols. 115-134. The lighter wall outside the rounded towers at Chalandriani, shown in fig. 32, corresponds remarkably, in relative position, to our Wall AW (*Hesperia*, XXVI, 1957, p. 144, fig. 1), which was built long after the early fortifications had been destroyed and buried.

¹⁶ C. W. Blegen, *Troy I*, pp. 145 ff., 188 ff.; W. Dörpfeld, *Troja und Ilion*, I, pp. 52-80.

¹⁷ Area JA-JB, *Hesperia*, XXV, 1956, pp. 170-171; XXVI, 1957, pp. 154-160.

¹⁸ Inv. L 7.46; H. pres. 0.065.

with flat bottom and vertical rim¹⁹ (Pl. 37, a), the other dark gray-brown with rounded shoulder and outturned rim, well burnished²⁰ (Pl. 37, b). A trial pit dug in 1954 at the west end of this grave had yielded another bowl at precisely the same level, undoubtedly an offering that had been laid at the feet.²¹ It is larger (Pl. 8, c), having a body like the first but also a distinct base of some sort, now lost, and on the outer surface of the plain reddish-brown biscuit there are remains of a thick white sugary incrustation, over which are faint traces of deep red paint. All three bowls have single horizontally-pierced lugs. They are of types not closely paralleled in the Lerna collections, but with affinities to the Neolithic repertory. The grave is presumably to be assigned to a late Neolithic phase, having belonged to a level of occupation that was cut away in Early Helladic times. Associated perhaps with the same late phase are a few sherds of black burnished ware with incised patterns, white-filled, that come from the highest Neolithic levels (Pl. 36, a-c).

The next five strata in Pit BD, each marked by house walls and numerous floors on which deposits had accumulated (e. g. Pl. 32, e), could be assigned to the same general stage as the upper eight strata in Area J. They have a total thickness of some two meters. The houses appear to have been small. They were repaired, altered, and reconstructed from time to time; in some places it was found convenient to use part of an old wall as the foundation for a new one. The pottery, here as elsewhere, comprises a large amount of red-brown glazed ware, a smaller amount of red slipped ware which occurs principally but not exclusively in the earlier phases, and many pieces with rectilinear patterns. These designs are painted, similarly, with glaze or slip²² and a development in the style and quality of decoration is discernible (Pl. 36, f-h).

The characteristic glazed ware of the upper strata is illustrated by fragments of a fine big carinated bowl, its orange-red coating rubbed on in a manner that produces a brilliant variety of tones²³ (Pl. 38 c), a darker brown piriform jar with lugs set low

¹⁹ Inv. L. 1394; H. 0.106, D. 0.152.

²⁰ Inv. L. 1445; H. 0.103, D. 0.172.

²¹ Inv. L. 545; H. pres. 0.163, D. 0.228. Base missing.

²² The word glaze ("Neolithic *urfirnis*") is here used to describe a substance that produces a naturally lustrous surface without supplementary burnishing, while the word slip is used for coatings, usually thicker, that appear moderately or quite dull wherever the surface is unburnished. Technical analyses have not been made, and this arbitrary application of the terms, though practical and acceptable in archaeological jargon, is admittedly lacking in precision. The two types of coating are not always easy to distinguish: a few pots appear to have glaze on the inside and slip on the outside, and (very rarely) the coating on the exterior looks like glaze in one place and like slip in another. Presumably the chemical composition of the substance, which we take to have been a solution of refined clay, is essentially the same throughout, and the changes came about in the firing. But the results were not left to chance. Kilns could be controlled, and most of the firings undoubtedly turned out as the potters intended.

²³ Inv. L. 1392; D. estimated 0.41.

on the body ²⁴ (Pl. 38, d), and part of a very large pedestal or stand with a pattern of small bosses that were formed by pressing a fine pointed implement into the clay from the inner side when it was still quite soft ²⁵ (Pl. 38, e, f). Three complete or nearly complete jars, of shapes represented previously by fragments only, were found successively at greater depths in Pit BD (Pl. 37, d-f).²⁶ These also belong to the red-brown glazed class. They have full swelling bodies and collar-necks; two have similar collar-like bases. Vertical tubular lugs appear on one, small horizontal lugs, pierced vertically, on another.

The earliest house in Pit BD belonged to the period of red glazed and slipped pottery. It had narrow walls with stone socles and a yellow clay floor at a level around 2 m. A.T. Just below this, the deposits were of a different character. A few stones appeared but there were no walls; the earth was full of black carbonized matter, and the relatively scanty pottery comprised chiefly Rainbow ware and moderately coarse spongy fabrics. Virgin soil was found in some places around 1.30 m. A.T. Elsewhere it had been cut down to and below the present water level, 0.66 m. A.T. The irregular hollows were too small to be interpreted as floors of huts; we suppose rather that here, as in the region observed farther south, the earliest Neolithic inhabitants scooped out the sticky red natural clay and used it in building their shelters; perhaps also for making their pots.

A grave was found in the upper part of the early Neolithic layer, its floor at 1.63 m. A.T. The shape of the pit could not be seen, owing to the softness of the damp earth, but this was obviously a simple inhumation. The skeleton was that of a child about five years old, lying on its right side with head to the northeast, legs drawn up and hands before the face. Near the head lay a hemispherical black burnished bowl ²⁷ (Pl. 38, a).

The sounding in Area BE (Square F 6), where parts of the huge Early Helladic building BG came to light, was also carried down through the Neolithic strata to virgin soil. The sequence was similar to that noted in Pit BD. Uncontaminated Neolithic deposits were found in some places as high as 4.10 m. A.T.; in Early Helladic times the ground-level in this region seems to have been reduced by grading rather than being built up by filling, and therefore the layer of mixed dump scarcely occurs. At least five building periods were represented by house walls with stone socles, floors, and accumulations of debris, at levels between 4.10 m. and 1.80 m. A.T. Red and yellow

²⁴ Inv. L. 1391; H. pres. 0.178.

²⁵ Inv. L. 1450; H. pres. 0.183.

²⁶ d. Inv. L. 1362; H. 0.182, D. 0.235. Level 3.40 m. A.T.

e. Inv. L. 1381; H. 0.203, D. 0.241. Level 3.20 m. A.T.

f. Inv. L. 1385; H. 0.268, D. 0.29. Level 2.30 m. A.T.

²⁷ Inv. L. 1384; H. 0.084, D. 0.118. Cf. S. S. Weinberg, "Remains from Prehistoric Corinth," *Hesperia*, VI, 1937, p. 496, fig. 6.

clay was used extensively in the houses for lining the floors and the storage pits. In or beside one of the buildings there was a small yellow platform with scalloped edges and a neat circular hole in the middle, perhaps for holding an upright post. The pottery associated with these phases comprised glazed and slipped wares and the corresponding wares with painted patterns.

Below 1.80 m. A.T. no further walls were discovered in Pit BE. For one meter there were strata of black, gray, brown, and reddish-brown earth containing loose stones and patches of ash or other carbonized matter. The pottery was of early Neolithic fabrics, Rainbow and brown spongy wares, with very few pieces bearing painted patterns. In the lowest stratum, on virgin soil, and in the three small pits that had been dug in it down to the present water level, there were some animal bones but almost no sherds.

The third of this season's deep soundings, AP, presented a different stratigraphical picture. At its north end, near the northwest corner of Square G 7, the pit revealed a section of the great gully that had been filled with a mixture of small stones and earth in an early phase of the Early Helladic occupation. In the southern part of the pit, however, successive strata were discernible: earth showing some disturbance from 3.25 m. down to 2.35 m. A.T., then uncontaminated Neolithic remains down to water level, where we were forced to stop digging without reaching virgin soil. At least three phases were clearly marked by superposed walls, laid out in straight lines, each with stone socles, the earliest being over 0.50 m. thick and standing to a height of five courses. Pottery of the very early types was found on floors associated with the two lowest sets of walls, around 0.90 m. and 1.50 m. A.T. respectively, and even the third level, about 2.20 m. A.T., may be assignable to the early Neolithic stage. Thus we find for the first time secure evidence that substantial rectangular houses, not merely temporary shelters, were characteristic of the most ancient settlement at Lerna.

Plain implements of bone and stone were recovered from these deposits. Most of the pottery is badly shattered; the sherds represent chiefly bowls with rounded profiles. The third stratum yielded a considerable part of the bottom and lower sides of a large vessel the inner surface of which was deeply scored vertically and horizontally with a sharp instrument while the clay was soft ²⁸ (Pl. 38, b). Fragments of similar vessels occur not infrequently in the Neolithic layers. The floor of these pots usually shows signs of wear by some grinding action.

CONSERVATION

In order to preserve the architectural remains that have been exposed and to leave the site in a state intelligible to students and visitors, the following measures were taken in 1957.

²⁸ Inv. L. 1451. H. pres. 0.175; max. D. pres. 0.355. Cf. *Hesperia*, XXVI, 1957, pl. 48, e.

Walls of dry-stone masonry were constructed all around the excavated area and topped with a coping of cement. These serve as retaining walls against the banks of earth, which stood to a height of some three meters along the north and on the south-east. Similar terraces were also made within the area wherever necessary. Much of the deep excavation on the southwest, where Neolithic layers had been dug in 1956, was refilled, but a large pit was left open with its banks secured in order to show the walls of Neolithic house 17 (Pl. 39, c). Below the filling of earth, west of this house, we deposited a thick layer of loose stones to draw off the rainwater that falls into the pit. Retaining walls were built to hold up an apsidal structure (15) and a Middle Helladic tomb (3) in the northwest corner of the area (Pl. 39, d), and two others to form successive terraces around the Middle Helladic houses toward the northeast. These walls help the eye to distinguish the different levels which mark the chronological stages of the settlement.

Most of the ancient buildings exist in plan only, stone socles of the walls being still in place but the crude brick superstructure having disappeared. In some cases the socles have also been lost in part and the remnants are difficult to understand. To clarify the lines of these buildings we undertook to fill out certain walls, using stones like those of the original building but reconstructing only to the length and height, usually one or two courses, that were attested by unmistakable evidence (Pl. 39, c). This modest restoration has greatly improved the general appearance and has helped to strengthen the original parts of the buildings. The tops of the walls have been pointed with cement to hold the stones in place; as the cement was applied it was dusted immediately with dry earth to give it a suitable color. In a few places where crude bricks are standing, protective copings have been constructed of modern roof tiles (Pl. 40, a).

The most difficult problem of conservation was presented by the House of the Tiles. Its walls and stairways had been saved by our protective sheathing (mentioned above) and no appreciable deterioration had occurred since they were first cleared, but some of the facings were in danger of disintegration (Pl. 39, a). Wherever the wall itself provided a sound backing of stone or hardened brick, we solidified the surface by filling the cracks and hollows with plaster of paris, which was then colored to harmonize with the rest of the wall. In other places the wall itself has crumbled behind the surface, and there more elaborate methods of conservation will be required.

Parts of the building, particularly at the east, had been demolished by later intrusions. Where this had occurred we restored the outer walls in stone approximately to the height of the original socle; gaps in the interior partitions were filled or reconstructed with fragments of the ancient tiles that had been recovered in the debris (Pl. 39, b). Wooden sheathings are to be fitted at the jambs of the three doorways, A, H, and P, where frames of that sort originally stood. In the case of

the two Mycenaean shaft graves that cut through the north-central and northeastern parts of the House of the Tiles, we chose to restore as much as possible of the Early Helladic walls, leaving the graves themselves intact but encroaching somewhat upon the area of their shafts.

These measures alone would obviously not suffice to preserve the remains of the building. A roof was required to give protection from the rain and an enclosure to keep people and animals from touching the delicate surfaces. After much study of the problem in collaboration with the Departments of Antiquities and Reconstruction it was agreed that the shelter should be as simple as possible, having open sides with wire mesh through which the antiquities could be seen, and that it should be built in reinforced concrete, tinted with earth colors like the museum at Corinth. Further requirements were that it be capable of withstanding the earthquakes that are felt occasionally in the Argolid, as well as the violent whirling winds that blow from Arcadia every summer (*Hesperia*, XXIII, 1954, p. 30), and that it require a minimum of maintenance. We are most grateful to Professors Orlandos and Marinatos and their departments for advice and assistance in solving these problems, and to the Greek Ministry of Education for a substantial contribution toward the cost of the construction.

The shelter was designed by Dr. Paul Mylonas, who also personally supervised the building operations. The work was done under contract by the firm of Gouliamos, Skandalis, and Nikolopoulos, who began on August 3 and completed the principal elements of the structure on August 29. It consists of a roof about 18 m. by 31 m. in area, pitching slightly to north and south from a central ridge, supported on either side of the ancient palace by rows of six vertical pillars. The clear span from north to south is 14 m., there being no internal supports. The bases of the pillars in each row are fastened about one meter below ground-level to a long continuous footing of reinforced concrete which binds them together and distributes the total weight. Trenches HTN and HTS, described above, were laid out specifically to receive these footings. Around the building, from pillar to pillar, there is a light barrier wall and, about 2.50 m. above ground-level, a broad horizontal beam which suggests a division into two storeys (Pl. 39, d; Pl. 40, a, b). The space between is to be closed with wire screening. Platforms outside the barrier wall will permit visitors to look down into the interior from a slight elevation.

The excavated area and a pathway, 3 m. wide and about 100 m. long leading in from the highroad (Pl. 40, b), were purchased on August 20 from the owners of the property, Messrs. George and Panayotis Kotsiopoulos. We take pleasure once again in expressing appreciation of the understanding and cooperative attitude which they have shown toward this excavation from its inception.

A few minor tasks remain to be accomplished during the coming year. The whole archaeological area is to be fenced and the wire grilles will be installed in the

shelter. For further protection of the crude bricks and plaster in the House of the Tiles it will probably be necessary to devise solid panels that may be set into three of the openings on the north and south flanks during stormy seasons, since in spite of the broad over-hanging eaves some fine spray of rain is blown in through the open sides. The problem of drainage is also difficult, and can best be met after the practical experience of a winter season. A few trees, shrubs, and vines, native and appropriate to the region, are now being set out in order to soften the outlines of the area and to provide a pleasing background. For advice about the selection and placing of the plants we are indebted to Mr. Ralph Griswold.

CONCLUSION

Six seasons of digging have provided much information about the early site at Lerna and a very rich yield of material objects. The principal purpose of the undertaking, a methodical examination of all the stages of human occupation in their chronological sequence, has now been achieved in large measure. Unexpected discoveries of monumental buildings of the Early Bronze Age, of early Mycenaean shaft graves, and many other single features of special interest have from time to time required extensions in the original plan and scope of the excavation. Ultimately the investigations spread over a not inconsiderable area. Yet the greater part of the mound still lies untouched; topographical questions remain unanswered, exploration of the surrounding territory has scarcely been begun, and new discoveries are undoubtedly close at hand awaiting further search. It is not easy in these circumstances to resist the temptation to continue. Nevertheless, having reached as good a stopping-place as is ever found at any excavation of this kind, we intend at present to forego additional work in the field and to devote all available resources to the analysis and publication of the information already collected. The task will require several years to accomplish.

Of all the material recovered, relatively few pieces have intrinsic interest or independent significance; the greater part will therefore be treated in a single comprehensive report, where the interrelationships and the course of development can best be shown. Topics of special interest that may usefully be observed as units, like the first closed group of Early Helladic sealings which has been studied by Miss Heath (above, pp. 00-00), will be treated in separate articles whenever this is practicable.

At the present writing (February, 1958), Miss Heath is continuing her work on the seals and related elements of decoration, e. g. the plastic bands on contemporary pithoi, and is making an analysis of Early Helladic pottery antedating the House of the Tiles. William Donovan is collaborating in the study of pottery with painted decoration that occurs at Lerna just after the destruction of the palace. Wallace McLeod, Fellow of the School, has taken up the study, begun earlier by Mrs. Helen V. Buck, of graffiti on pots of the Middle Bronze Age; some of the signs in this

series are apparently identical with characters in Linear A script. Mrs. McLeod is preparing catalogues of the later Mycenaean groups. The human skeletal material has all been examined and recorded by Professor J. L. Angel of the Jefferson Medical College. Dr. Nils-Gustaf Gejvall of Stockholm has agreed to study the very large collection of animal bones that has been stratigraphically assembled. Dr. Thea Elizabeth Haevernick of the Römisch-Germanisches Zentralmuseum in Mainz examined the glass beads, found principally in late Middle Helladic and Mycenaean graves, and her colleague, Dr. Maria Hopf, has kindly offered to inspect the sizable group of botanical specimens that has been recovered from all the principal layers.

In the series of preliminary reports on the annual campaigns in the field an effort has been made to present a factual account of the discoveries, without commentary but with close attention to the light that they may shed upon the relative chronology of the settlements. Members of the staff having been preoccupied with other duties during much of each year, our study of Lerna has not yet reached the point where attempts at more general interpretation of the evidence would be profitable. The main divisions of the stratigraphical sequence are, however, reasonably clear, and the present report may close with a brief summary of the successive periods, mentioning a few of their most obvious characteristics. Seven main stages can be distinguished, from the remote beginnings in the Stone Age down to the Mycenaean period. Some are sharply set off, others merge gradually with each other and become individually recognizable only after a somewhat hazy process of development has intervened. The periods of transition will be examined hereafter with particular care. Provisionally meanwhile, the sequence may be described as follows:

1. An early Neolithic layer, resting on virgin soil. It is made up of many successive strata and has a maximum total thickness in some places of nearly two meters. Straight house walls with stone socles occur. Pit graves have been found near the top of this layer. The characteristic pottery comprises Rainbow ware, plain black burnished ware, and spongy coarse ware; painted patterns are rare. Obsidian is plentiful.

2. A second Neolithic layer, possibly representing a distinct stage of habitation, comprises as many as eight building levels and deposits fully two meters in thickness. Each stratum contains walls of rectangular houses; the rooms are normally very small. Large quantities of very fine red-slipped and glazed wares and many pieces with painted patterns occur; a development in the styles is discernible. In the uppermost stratum are a few sherds of black burnished ware with incised decoration and a few with patterns in dull paint. One grave was found in the earth of the highest stratum. Stone tools and terracotta female figurines occur throughout the period; metals were not in use.

3. The great Early Helladic settlement, superseding the Neolithic after a distinct break. Grading and filling took place in one of the early phases, but apparently not the first. There was a succession of at least six architectural stages, some with monu-

mental rectangular buildings, culminating in the House of the Tiles. Elaborate and powerful fortifications surrounded the inhabited area, which was a citadel and the seat of administrative authority. The use of copper and lead was known, and technical resources were highly developed. Styles of pottery were maintained in general throughout the period but change and development occurred. Sauceboats and askoi are plentiful. Early Cycladic wares are found particularly in the initial phases. Terra-cotta figurines of animals occur. No graves have been discovered. The period ended with the destruction of the House of the Tiles by fire. Its site was thereafter marked by an artificial tumulus.

4. A late stage of the Early Helladic period, comprising three or four building phases. The houses at first are small and irregular, then larger and more substantial; both straight and curving walls appear. The pottery is different from that of the preceding period: askoid shapes survive, the tankard and two-handled bowl are introduced, sauceboats no longer occur; the characteristic fabrics include wares with painted patterns (dark-on-light predominating), slipped wares, "Smear ware," and very crude burnished ware. An imported Trojan jar was found. Some Cycladic pieces and the first Minoan imports are probably to be assigned to the end of the period. Conical and anchor-shaped objects (figurines?) appear. A few infant burials have been found in this settlement. There is no recognizable break to set it off from the next.

5. The main body of the Middle Helladic settlement. Houses are of moderate size, both apsidal and rectangular. At first Early Helladic elements survive. Gray Minyan ware is introduced in moderate quantities; Matt-painted and glaze-painted pottery follow shortly. Middle Minoan wares and influences appear at an early stage, when foreign pots from the north, probably the Balkans, are also imported. Cycladic and Aeginetan wares occur. The dead were buried in cist and pit graves within the settlement. This is a long period with many successive building levels, in which signs of burning are not common. Its end is not distinguished by any interruption.

6. A period represented by the two royal shaft graves, a few smaller graves, and scattered remains of habitation deposits on the site. No walls were discovered that could be assigned to this period. Fine pottery of developed Middle Helladic styles and Late Helladic I is characteristic; Cycladic influence persists.

7. The Mycenaean period. Pottery of Late Helladic II occurs in small quantities. Houses and pottery of Late Helladic III A and III B have been found in a limited area; wares of III C are not surely attested. Cist and pit graves of Middle Helladic types continue to be used.

Evidence of the end of the Bronze Age and of human activity on the site thereafter has been lost by the erosion of the mound. Graves, well shafts, and a few other remains indicate that the place was utilized in one way or another throughout antiquity.

JOHN L. CASKEY

AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS

ACTIVITIES IN THE ATHENIAN AGORA: 1957

(PLATES 41-46)

IN the course of the year the installation of the Agora Museum in the Stoa of Attalos was virtually completed. Final exploration was carried out over extensive areas on the slopes of the Areopagus and some further landscaping was done in the main area of excavation; this field work yielded a number of interesting miscellaneous finds. The majority of the staff, both those in regular residence and those who visited Athens for shorter periods in the course of the year, concentrated chiefly on the preparation of publications.¹

At the beginning of June, 1957 the public part of the Stoa of Attalos, i. e. the lower floor with the galleries that are accessible to the public, was turned over to the Ministry of Education who have assumed responsibility for its guarding. The basement of the building and the upper floor, containing the storerooms, workrooms and offices, continue to be administered by the American School. An ephor of antiquities with responsibility over the lower city of Athens including the Agora has been installed in an office on the upper floor of the Stoa. A ticket office has been erected at a point about a hundred meters southwest of the Temple of Hephaistos. This is now the sole public entrance to the area; a charge of 5 drachmai (16½ cents) admits to both the archaeological area and the museum, but there are two free days per week for the benefit of the local people.²

INSTALLATION OF THE AGORA MUSEUM

The transfer of archaeological material from the Excavation House to the Stoa of Attalos was completed in the spring of 1957, after which the old building was demolished. The Excavation House had consisted of a group of 19th century buildings standing on Asteroskopeiou Street at the north foot of the Areopagus. Modified

¹ The regular staff comprised Eugene Vanderpool, John Travlos (on leave of absence from February 1st, 1957), Lucy Talcott, Alison Frantz, Virginia Grace, Judith Perlzweig, Claireve Grandjouan and Maria Savvatianou. Alan Boegehold, Colin N. Edmondson and John Oates, all students of the School, supervised areas of excavation in the spring of 1957. Margaret Crosby, Evelyn B. Harrison, Evelyn L. Smithson, Mabel Lang and Eva Brann were able to pursue their studies of Agora material for shorter periods in Athens. Mario Del Chiaro of the University of California (Santa Barbara) spent the summer in going over the evidence for bronze casting in the Agora with a view to its publication.

² The Greek authorities have been most helpful in this transitional period. Mr. A. Gerokostopoulos, Minister of Education, Professor Sp. Marinatos, Head of the Department of Antiquities, and Mr. John Threpsiades, Ephor of Antiquities for the lower city, have in particular given sympathetic consideration and practical assistance toward the solution of the manifold problems that have inevitably arisen.

to accommodate workrooms, storerooms, offices and temporary museum, these buildings had served the expedition as a commodious and convenient headquarters for a quarter of a century. Since the houses stood on bedrock and their basements were sunk deep into the rock, little of archaeological interest is expected from the clearance of the site.

The study collections have now been put in order in the cabinets and on the shelves of the basement and upper floor of the Stoa so that the material is once more readily accessible to scholars.³ The installation of the sculpture in the colonnades of the Stoa proceeded through 1957 and will continue into 1958.⁴ With its mending room, photographic room, drafting room, studies and offices, the Stoa is providing a practical place for the study of the material from the site and an adequate base of operations for the small-scale field work that remains to be done.

ARCHAEOLOGICAL EXPLORATION

SLOPES OF THE AREOPAGUS

In conformance with the current program for cleaning up the peripheral areas around the Agora proper final exploration was carried out this past season over extensive areas on the slopes of the Areopagus, the first being at the extreme northwest foot of the hill with John Oates in charge. Here the road that led out of the southwest corner of the Agora to pass around the west end of the Acropolis intersected the east to west roadway that came in from the Piraeus Gate and ran along the north slope of the Areopagus. A 50-meter stretch of the north to south road was cleared and studied. The roadway, with a width of three to five meters, had been surfaced with gravel that gradually accumulated through the long history of the thoroughfare from at least the late archaic period into the 6th century after Christ. Beneath the middle of the road ran a large terracotta drain, flowing northward.

The property at the junction of the two roads, to the west of the one and to the south of the other, had been occupied by a succession of private establishments. The earliest traces of habitation are of the 5th century B.C. A well yielded a quantity of pottery of the early Hellenistic period. The most substantial remains, however, derive from a large structure of irregular plan that was in use from the early Roman period into the 4th or 5th century after Christ. Since several of its rooms were heated by hypocausts, it would seem to have been a bathing establishment of a modest sort, the fourth that has come to light in the thickly populated, largely industrial area around the northwest foot of the Areopagus.

³ Much help was received from members of both the British and American Schools in the task of packing, unpacking and re-shelving the 65,000 catalogued objects. Supervision was largely in the hands of Mrs. Alan Boegehold who served as records assistant throughout the transfer.

⁴ Contributions from Mr. John Crosby have assisted greatly in the installation of the sculpture. The work has been supervised largely by Evelyn B. Harrison.

Intensive exploration was also carried out on the north slope of the Areopagus in an area bounded by two ancient east and west streets, one of which skirted the south side of the Agora proper while the other ran about one-third of the way up the hill side. The work was here directed by Eugene Vanderpool, Alan Boegehold and Colin Edmonson. Throughout antiquity this had been an area of private houses, irregular in shape and size, and served by narrow alleys that joined the two main streets. The results of the excavation fully confirm the disparaging remarks regarding the residential parts of Athens made long ago by that discerning visitor of the Hellenistic Age, the Pseudo-Dikaiarchos (*F.H.G.*, II, p. 254):

"The whole city is dry and not well supplied with water. It is poorly laid out because of its antiquity. The majority of the houses are shabby, few are good. A visitor at first sight might well question whether this were really the famous city of Athens; soon, however, he would be ready to believe it. The finest Odeion in the world . . . etc."

The remains of houses range in date from the 5th and 4th centuries B.C. into the 5th and 6th centuries after Christ. Because of the long continuity of habitation and repeated alterations, the plans and the history of the houses are hard to disentangle. The study of them will, however, provide a welcome supplement to our still scanty knowledge of Athenian domestic architecture.

The efforts made by the ancient Athenians to wring water from their parched soil are well illustrated by two characteristic hydraulic installations that have come to light in this area, the one dating from the 5th century B.C. and the other from the latest Roman period. The remains of the earlier comprise a small rectangular collecting basin (0.50 x 0.80 m.) made of rubble stone work set near the bottom of the hill slope. From this basin the water was carried northward in a conduit made of re-used, round terracotta pipes of late archaic type; the hand holes which in new pipes would have been snugly closed with proper stoppers were here protected with stones and miscellaneous sherds of pottery and roof tiles (Pl. 41, a). In the second installation the source of water was a well dating from the 1st century after Christ and opening at a somewhat higher level on the north slope of the Areopagus (Pl. 41, b). In the 5th, or possibly even the 6th century after Christ a terracotta channel was led off northward from the well, presumably at a point just below the water table of the time. To keep the conduit accessible for cleaning and repairs in the upper part of its course where it ran several meters under the surface, the pipes were laid at the bottom of a brick-vaulted tunnel. The well itself was also now closed above by means of a vaulted spring house accessible through a door and a short flight of steps. In neither case has the eventual destination of water been determined. In both cases its volume must have been very modest, but it had the great advantage of being fresh and flowing. The water table has now fallen so low that neither of these systems could function today. It may be noted, however, that at the extreme north foot of the Areopagus a

tiny spring still flows the whole year through, issuing from the ground at the southeast corner of the Southeast Fountain House. Is this perhaps Kalirrhoe, the visible source that is said to have preceded the Enneakrounos?

The more normal source of household water in this area throughout antiquity was the well and the cistern. In the course of the past season four wells and two cistern systems were explored.

A FAVISSA IN THE NORTH CENTRAL PART OF THE AGORA

In the course of drainage operations to the west of the Panathenaic Way, at a point just north of the Altar of Ares, the landscaping crew came upon a carefully constructed repository of unusual design (Fig. 1, Pl. 41, c). The container consisted essentially of a re-used well head of gray poros which had been placed upside down on a massive platform made of re-used blocks of soft, cream-colored poros resting on bedrock. Shallow rope marks on the original lip of the puteal show that it had served its primary purpose for a comparatively short period. In its new position the puteal was flanked on each of its four sides by a pair of re-used poros blocks similar to those in the platform. Set as orthostates, these blocks rose above the top of the puteal to form a collar for the reception and fastening of a stopper. The stopper, too, was made of old material, a Doric column capital of soft brown poros, the echinus of which had been re-worked in such a way that the capital came to resemble the stopper of an ink-bottle.⁵ Clamp cuttings in the top of the abacus correspond with similar cuttings in the collar that surrounds the puteal. Each side of the abacus was secured by two heavy iron clamps of double-T form, run with lead.

The pit had an inner floor consisting of a slightly lentoid disc of Pentelic marble finished with a single point. Four shallow nicks in the rim of the disc suggest the use of a cord in setting; the fit was very neat.

The depth of the pit with its double floor in place was 0.50 m., its diameter at the top 0.60 m. and at the bottom 0.51 m. It will be apparent that when the stopper was in place the useful space below was limited; the calculated volume of this part was 61,740 cc. or 16.31 U. S. liquid gallons.

The remarkably fresh state of the top of the stopper indicates that it must have been covered with a protective mass of earth soon after construction. Actually its top would have rested *ca.* 0.55 m. below the contemporary ground level of the early 5th century B.C. This level was already a firm-packed gravelly road surface which continued to build up through the ages; an additional accumulation of 0.50 m. had

⁵ The abacus measured 1.08 m. wide, 0.19 m. high. The total height of the capital as re-worked is 0.42 m., some stone having been cut away from its underside. On its top the abacus shows a relieving surface 0.17-0.18 m. wide on all four sides, an incised setting line across its middle and a pry-hole for setting the architrave. Rough pry-holes in the vertical sides of the abacus were presumably made by those who re-used the block.

gathered by the 2nd century B.C. when the stone water channel was laid along the west side of the near-by Panathenaic Way.

The excavation yielded no certain trace of a visible superstructure or marker

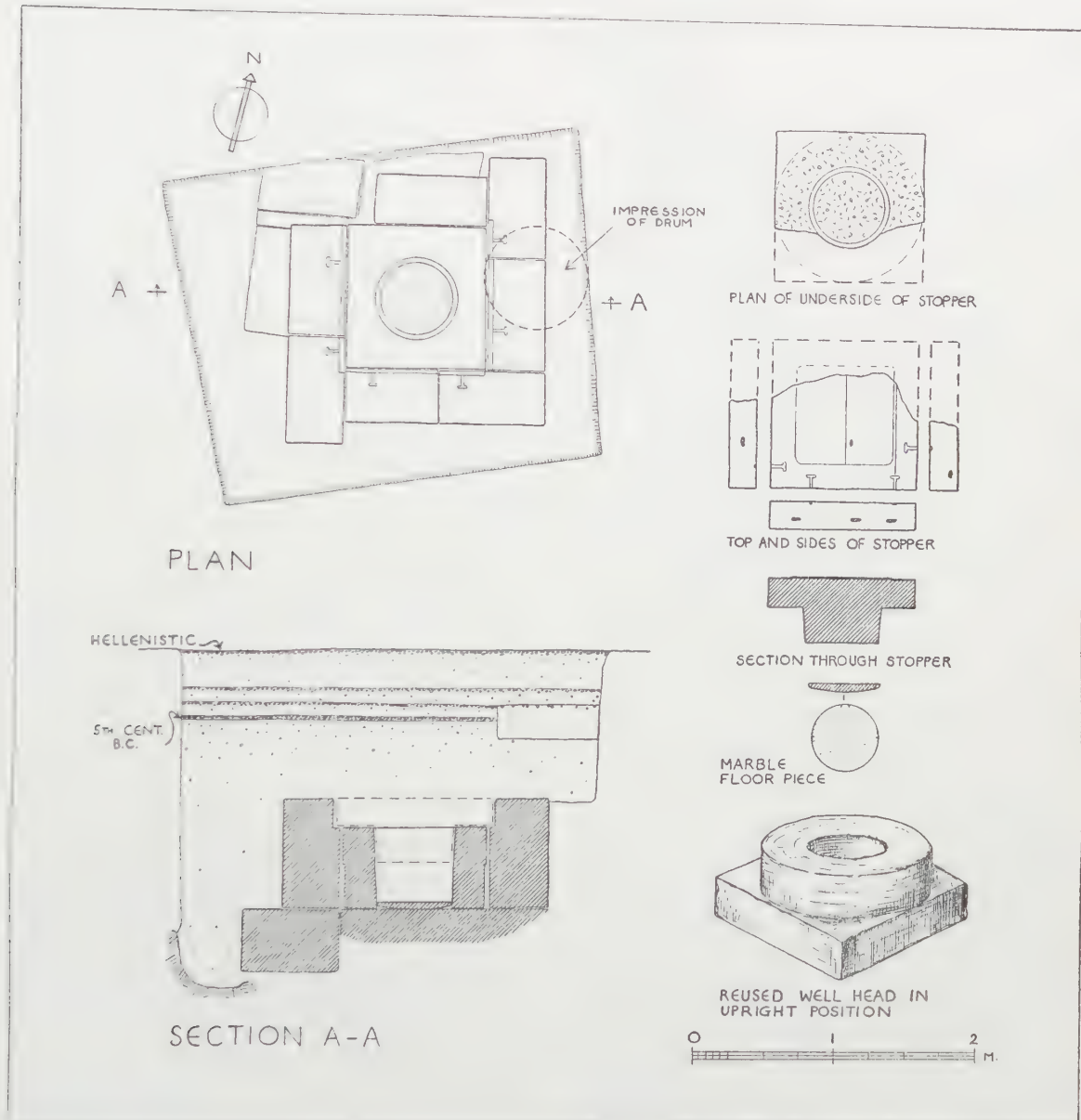


FIG. 1. Stone-curbed Pit to West of Panathenaic Way.

above the repository. Immediately to the east of the pit, however, a cavity filled with soft earth, its bottom *ca.* 0.40 m. above the top of the puteal, marked the place from which a fluted drum *ca.* 0.70 m. in diameter had been removed in antiquity (Fig. 1).

This drum may be related to the repository below, and may have been abstracted by those who filled the pit, but the connection is not established.

The pit was exposed and violently disturbed in antiquity. The southeast clamp, of which the outer half remains in place in the collar, had been cut through with a chisel. Even after cutting the clamps, however, the despoilers had evidently experienced great difficulty in raising the massive stopper. They finally succeeded by digging down at the northwest corner, breaking up the corner orthostate block and battering down the tops of the two adjacent orthostates. About one-third of the abacus of the re-used column capital was hacked away; the remaining part was found by the excavators, as it had been left by the ancient pillagers, lying upside down just above the mouth of the pit.

The contents of the pit had been so much disturbed that we shall never know the full inventory. It is clear, however, that one of the principal items had been the charred bones of animals, probably sheep or goats; among them were two cores from goat horns. A quantity of the charred bone was found by the excavators in the bottom of the pit; more had been raked up by the ancient riflers and left on the curb. In the disturbed mouth of the pit also lay fragments of a large wine jar and of a plain amphora, both of early 5th century types.

The following objects, all of which were found in the pit or near its mouth, may be associated with the deposit with more or less certainty:

a. Gold Band and Gold Foil. Pl. 42.

J 136. L. of band 0.04 m., W. 0.004 m. Broken at one end.

The band ended in a loop made of heavier gold thrust through a slit in the band proper. The band is bordered on either side by a row of dots made by punching from behind. Two small scraps of gold foil, each with a preserved length of 2 cm., may have no connection with the band.

Presumably from a head band. The primitive technique of decoration is fairly common; compare, for instance, *B.M. Catalogue of Jewelry*, no. 1154, pl. XII: from Kameiros, 7th century B.C.

b. Bronze Protome in form of a Bearded Snake. Pl. 42.

B 1206. L. 0.055 m. Cast solid with a shoulder at the stump end for insertion. Scales indicated by punching.

A number of snake protomes are known from the Athenian Acropolis: A. de Ridder, *Bronzes*

trouvées sur l'Acropole d'Athènes, Paris, 1896, pp. 202-205, nos. 554-570; *Δελτίον*, II, 1916, *parartema*, p. 32, fig. 28, α and γ; H. C. van Gulik, *Catalogue of the Bronzes in the Allard Pierson Museum*, Pt. 1, Amsterdam, 1940, p. 68, no. 103, pl. XXI.

c. Bronze Lug from a Vase Pl. 42.

B 1209. L. 0.075 m., diam. 0.015 m.

Bobbin-shaped with a round knob at either end and seven groups of turned grooves around the shaft. The lug was fastened to the vase by means of two small bronze pins set in holes drilled transversely through the lug; part of one pin remains in its hole.

Such lugs are commonly all that survive of archaic bronze vessels, to the rims or shoulders of which they were attached. Normally there are sockets in the ends of the bobbin to take a loop handle, but the type that served simply as a lug is also known: *Δελτίον*, I, 1915, *parartema*, pp. 23 f., fig. 16 ι (from the Athenian Acropolis); D. M. Robinson, *Olynthus* X,

Baltimore, 1941, no. 966, pl. LXIV. For discussion of these handles cf. A. Furtwängler, *Olympia*, IV, pp. 133-135; H. Payne, *Pera-chora*, I, London, 1940, p. 161; D. M. Robinson, *op. cit.*, pp. 243-245.

Another bronze vessel, a small oinochoe with trefoil mouth, was represented by a small scrap from the lip (Inv. B 1208).

d. Bronze Shield. Pl. 42.

B 1200. Rather more than one-quarter of the rim remains with a ragged piece of the adjacent sheet bronze. W. of rim 0.055 m.; est. diam. of shield 0.90 m.

The rim bears a rich braid pattern (7 rows of eyes) in repoussé.

The shield was of the normal "Argive type," similar to that from Pylos found in the Agora in 1936 (*Hesperia*, VI, 1937, pp. 347 f.) and to many found at Olympia (cf. E. Kunze, *V. Bericht über die Ausgrabungen in Olympia*; Berlin, 1956, pp. 51-68).

Since the fragmentary shield was found outside the actual pit, though close to its rim, there is no certainty that it was ever inside; if it had indeed been inserted it must only have been in a fragmentary or crumpled state.

e. Bronze Arrow Heads Pl. 42.

B 1207. Eight in number. Max. L. 0.034 m. Socketed, with three blades.

Similar to numerous points found on the North Slope of the Acropolis in contexts which indicate their association with the Persian attack of 480 B.C. (O. Broneer, *Hesperia*, II, 1933, p. 341, fig. 13; IV, 1935, pp. 113-117, fig. 4). The same type is also common among the finds at Thermopylae (S. Marinatos, *Thermopylae*, Athens, 1951, p. 65, fig. 21).

f. Faience Hawk Pl. 42.

G 549. H. 0.04 m. Broken but virtually complete.

The bird stands on a rectangular plinth, and has a suspension loop on his back. The faience

has a cream colored body with a slightly glossy surface mottled brown and green.

Similar hawks, presumably of Egyptian origin, have come to light also at Sounion ('Αρχ. Έφ., 1917, p. 197, fig. 9), on Delos (*Délos*, XVIII, pp. 304 f., no. A 3780) and Aegina (J. D. S. Pendlebury, *Aegyptiaca*, Cambridge, 1930, p. 96, nos. 240 and 241).

g. Terracotta Figurine: Charioteer Pl. 42.

T 3520. Pres. H. 0.052 m. Upper part of a handmade figure with pinched face and flattened body. Buff clay, unpainted.

From a group in which the charioteer was plastered to the rear end of the horses; cf. examples from the votive deposit at the north foot of the Areopagus (D. Burr, *Hesperia*, II, 1933, pp. 614-621, fig. 82) and from the dromos of the Mycenaean tomb at Menidi (P. Wolters, *Jahrb.*, XIV, 1899, pp. 121-123).

h. Terracotta Figurine: Horse Pl. 42.

T 3528. Pres. H. 0.056 m.

Head and neck only with a scar on one side of the neck showing that it comes from a team. Ash-gray clay, retaining traces of white engobe.

For the type cf. Burr, *loc. cit.*

i. Terracotta Figurine: Charioteer(?) Pl. 42.

T 3521. Pres. H. 0.03 m.

Mid part of a slightly stooping handmade figure. Buff clay, unglazed.

In addition, the deposit included several fragments of horses' legs and of chariots similar in style to the above.

j. Fragment of Ivory Fibula Pl. 42.

BI 757. A small piece remains from the edge of a disc ca. 0.065 m. in diameter.

The disc had an incised border: a simple guilloche bounded by a pair of lines on either side.

The piece comes from a spectacle fibula of Blinkenberg's Type XV, 5, which is of wide occurrence in the 7th and 6th centuries (C. Blinkenberg, *Fibules grecques et orientales*,

Copenhagen, 1926, pp. 262 ff., especially pp. 268 f.; D. M. Robinson, *Olynthus* X, p. 101, no. 338, pl. XX).

k. Terracotta Shield Pl. 42.

T 3525. Rim fragment from a round shield with diameter of ca. 0.065 m.

Sharply offset rim; buff clay with traces of white paint. The deposit included fragments of two other shields of similar type.

Numerous examples of such shields were found in the Protoattic votive deposit at the north foot of the Areopagus (Burr, *op. cit.*, pp. 609-614) as also in the dromos of the Mycenaean tomb at Menidi (Wolters, *op. cit.*, pp. 118-121).

l. Terracotta Pinax Pl. 42.

T 3522. Max. dim. pres. 0.073 m.

One corner of a rectangular plaque pierced with a round suspension hole before firing. Buff clay; traces of white paint. Fragments of two other similar plaques.

For close parallels from the Protoattic votive deposit at the north foot of the Areopagus cf. D. Burr, *op. cit.*, pp. 604-609, and from the dromos of the Mycenaean tomb at Menidi cf. Wolters, *op. cit.*, p. 121. On early votive pinakes in general cf. J. Boardman, *B.S.A.*, XLIX, 1954, pp. 183-201 (pp. 197 f. for the Agora examples).

m. Middle Corinthian Cup. Pl. 42.

P 25955. Three fragments from the wall.

On the exterior, traces of winged creatures and a quadruped on a dotted band above rays;

on the interior, revellers with drinking horns in their hands. Purple on wings and on garments of dancers.

For the class cf. H. Payne, *Necrocorinthia*, pp. 310-312: cups with offset rims.

n. Fragment from a Red-figured Volute Krater Pl. 42.

P 25957(a). Pres. H. 0.06 m.

One of several fragments from a large krater with a chariot scene. The illustrated fragment, from the upper right corner of a panel, shows the head and shoulders of a youth, to l.; immediately in front of him appears the back of the head of a larger figure. Relief contour for face and body. A handle fragment is decorated with black-figured palmettes.

The piece has been attributed by Sir John Beazley (summer 1957) to the Eucharides Painter: "not his latest: 490-480 B.C." This painter is already represented in the Agora by several other vases and fragments:

P 3299, fr., fight. *A.R.V.*, p. 156, 41.

P 12072, cup fr., woman. *A.R.V.*, p. 953, 61 bis.

P 13367, fr. of calyx krater, Triptolemos. *A.R.V.*, p. 154, 15.

P 15010, oinochoe, shape 3, Nike. *A.R.V.*, p. 953, 36 bis; G. van Hoorn, *Choes and Anthesteria*, Leyden, 1951, no. 219, fig. 74.

P 19291, fr. of calyx krater, athlete. *Paralipomena to A.R.V.*, p. 561, added as 15,1; *Hesperia*, XVIII, 1949, pl. 45,5.

The material from the deposit evidently covers a very considerable period of time; the terracotta figurines, pinakes and shields as well as some unlisted sherds of Protocorinthian certainly, the snake protome, the faience hawk and the ivory fibula probably fall within the 7th century, the Middle Corinthian cup in the early 6th, the shield, arrow heads and the red-figured krater in the early 5th century. A few fragments of black-figure and of black-glaze not listed here will also be of the late 6th or early 5th. A long gap then intervenes, closed below by a few scraps of black-glazed and stamped ware of the mid 4th century; since this is the latest pottery found in

clearing the pit it may have entered at the time when the repository was rifled, but in view of its paucity its evidence for dating must not be pressed.

Much of the material is evidently of a votive character. Parallels have already been drawn between the terracotta figurines, shields and pinakes from this pit and those found in 1932 in the votive deposit at the north foot of the Areopagus. The new deposit also corresponds closely in its composition with that found in the dromos of the Mycenaean tomb at Menidi. Particularly striking is the occurrence in all three deposits of the same types of terracotta figurines, shields and pinakes. Such offerings have been regarded as especially appropriate to the hero worship that persisted in the dromos of the Menidi tomb until interrupted in the second half of the 5th century, probably by the Peloponnesian War.⁶ It would seem possible that the votive material from the pit by the Panathenaic Way also derives from a hero cult established in relation to some near-by tomb of the Mycenaean period, several of which have come to light in previous seasons both to east and west of the pit.⁷ We should have to suppose that the cult had persisted at least from the middle of the 7th century into the early 5th, at which time it was disturbed. On this occasion a ceremony including a sacrifice was observed, and thereafter a representative lot of the accumulated votives, together with burned bones from the sacrifice, was piously laid away in a carefully prepared repository.⁸ This in turn was violently disturbed perhaps as early as the 4th century B.C. though the date cannot be fixed with precision. Nor can we say whether this intrusion was accidental or deliberate, for we do not know whether the spot had been marked in any way. Still less can we hope without further evidence to attach a name to the sanctuary. For the present at least it must remain a tantalizing archaeological phenomenon floating in anonymity just as so many of the minor sanctuaries, the graves of heroes and of mythical characters, though known from the ancient authors, have not yet been localized nor brought into connection with archaeological fact.⁹

ARCHAEOLOGICAL FINDS

SCULPTURE

Before mentioning the sculptural finds of 1957 we may note that in the summer of 1956 numerous fragments of a poros pediment of the late archaic period were

⁶ Wolters, *op. cit.*, pp. 127, 135; M. Nilsson, *The Minoan-Mycenaean Religion and its Survival in Greek Religion*, 2nd ed., Lund, 1950, pp. 600-603.

⁷ Cf. Townsend, *Hesperia*, XXIV, 1955, pp. 187 f.

⁸ In the close vicinity of the newly found repository two instances had previously been observed of Mycenaean graves accidentally discovered in the classical period and treated with respect: *Hesperia*, XXIV, 1955, pp. 195 f.

⁹ O. Broneer has recently endeavored, apparently with success, to associate archaeological evidence for an heroon in close relation to early graves beneath the Agora of classical times in Corinth with heroic figures previously known only from the literary evidence (*Hesperia*, XI, 1942, pp. 128-161; G. R. Davidson, *Corinth*, XII, 1952, pp. 340-342, nos. 2926-2938).

discovered in foundations of Byzantine date at a point between the Panathenaic Way and the Odeion (Pl. 43, c).¹⁰ Along with the sculptured fragments were found several pieces of an archaic poros geison of similar scale and presumably from the same building. The surviving parts appear to come all from the right side of a pediment decorated in high relief with a group of two lions devouring a bull, a scene familiar from the two great poros groups on the Acropolis and illustrated once more by the recent reunion of fragments of a somewhat smaller marble group that is now divided between Athens and New York.¹¹ In view of the number of the fragments and the fact that the geison as well as a vertical slab of the pediment is represented by them, it is tempting to believe that the building from which the poros pediment derives stood in or near the Agora. Since the fragments are comparatively small, however, and since they were certainly re-used, they may well have been brought from a distance. A closer study of the fragments, it is hoped, will permit both the dimensions of the pediment and its date to be fixed with greater precision; only then can the possibility of associating the sculpture with some known building be seriously considered.

The intensive exploration of the north slopes of the Areopagus yielded a number of pieces of archaic sculpture very fragmentary but of a quality that suggests that they come from the Acropolis. One such piece is shown in Plate 43, a. This fragment, preserving the lower part of a bearded head of life size, was found in a pit (Q 20:1) together with some fine sherds, including the red-figured volute krater noted below, and terracotta figurines; the deposit is probably to be associated with the Persian sack.¹² Despite its pitiful condition the fragment is important as an addition to our meager list of male figures in the round from Athens of the late 6th century.

From a late Roman context in the bathing establishment at the northwest foot of the Areopagus came a marble statuette of Asklepios, lacking head, right forearm and legs (Pl. 43, d).¹³ The upper part of the god's characteristic staff is preserved under his right armpit. Among several statuettes of the healing god from the Agora excavations this piece is outstanding in quality of workmanship and also in its close adherence to the well known type which appears to have the best claim to be associated with the cult statue in the Athenian Asklepieion on the south slope of the Acropolis.¹⁴

¹⁰ S 1972. In addition to the group of joining fragments shown in Plate 43, c, there are a number of smaller pieces preserving portions of the hind quarters of both the lion and the bull. The section illustrated retains its original top, bottom, back and left vertical joint surface. The height of this section, 0.79 m., must be close to the full height of the pediment, but the corroded state of the soft stone makes it impossible to measure the angle of slope with any degree of precision.

After conservation and study the monument will be published by Evelyn B. Harrison.

¹¹ G. M. A. Richter, Metropolitan Museum of Art: *Catalogue of Greek Sculptures*, Cambridge, Mass., 1954, pp. 7 f., no. 7, pl. X. H. 0.613 m.

¹² S 1997. Pres. H. 0.13 m. Pentelic marble.

¹³ S 1991. Pres. 0.40 m. Pentelic marble. Clear traces of red color on the himation when found.

¹⁴ The new piece finds its closest parallels in respect of both proportions and arrangement of

A miniature portrait head of Pentelic marble was likewise found among the ruins of the bath at the northwest foot of the Areopagus in a context as late as of the 4th century after Christ (Pl. 43, b).¹⁵ This extraordinarily vivid study represents a woman of middle age and of abundant personality, scarcely all virtuous. The coiffure had been adjusted in antiquity; the traces indicate that a large bun has been deliberately chiselled away from the back of the head. The full face, the prominent eyebrows, the strongly curved lips, and the tightly marcelled hair all point to the Empress Julia Domna, the second wife of Septimius Severus, who became Augusta in A.D. 193 and lived on till A.D. 217. Equally telling for the identification is the combination of physical beauty with the intellectual energy and strong temperament that are known from the authors to have characterized this remarkable Syrian woman.¹⁶ One might well ask, however, how such a remarkably fine and apparently lifelike image could have been produced in Athens, particularly on such a miniature scale? The explanation is doubtless to be found in the special relations that existed between the Empress and Athens, in particular the grant of divine honors to the Empress whereby her cult was associated with that of Athena Polias, and her image, in gold, was set up in the Parthenon.¹⁷ This event, which has not yet been dated with assurance, would have provided both an occasion and a model for the making of the brilliant little study in marble.

A HOARD OF ATHENIAN IMPERIAL COINS¹⁸

A depression in the floor of a house at the extreme northeast foot of the Areopagus yielded a group of 133 coins of the imperial period. Since the latest pieces are two of Gallienus, one of which was minted at Antioch in the period A.D. 266-268, we may safely assume that this lot of coins, like others found elsewhere in similar circum-

drapery among the statues which Neugebauer grouped around the Asklepios Giustini: 78. *Winckelmannsprogramm*, Berlin, 1921. Cf. also M. Bieber, *Proceedings of the American Philosophical Society*, CI, 1957, pp. 70-92. For other statuettes of Asklepios from the Agora cf. *A.J.A.*, XL, 1936, p. 198, fig. 17; *Hesperia*, XXII, 1953, p. 54, pl. 19, c and d; and from elsewhere in Athens cf. Bieber, *op. cit.*, p. 87.

¹⁵ S 1977. H. 0.09 m.

¹⁶ For the identification see especially J. J. Bernoulli, *Römische Ikonographie*, II, 3, 1894, pp. 35-47. The Agora head is to be included with the series grouped by Bernoulli around a head from Gabii now in the Louvre (pl. XVI). The coiffure in its original form would seem to have been of the sort illustrated on the coins that show the empress soon after her husband's succession in A.D. 193 (Bernoulli, *Münztafel* I, 13).

¹⁷ This is known from a fragmentary inscription first published by A. v. Premerstein (*Jahreshefte*, XVI, 1913, pp. 249-270) and subsequently re-edited with the addition of several fragments by O. Broneer (*Hesperia*, IV, 1935, pp. 178-184, no. 45) = *I.G.*, II², 1076. On other honors paid by the Athenians to Septimius Severus and Julia Domna, cf. C. Wachsmuth, *Stadt Athen*, I, Leipzig, 1874, p. 713, n. 2; W. Judeich, *Topographie von Athen*,² pp. 103 f.

¹⁸ I owe the substance of this note to Mrs. J. L. Caskey who continues to render a most useful service by identifying the coins from the current excavations.

stances in houses around the Agora, represents the contents of a purse dropped or concealed at the time of the Herulian sack of A.D. 267.¹⁹ With the exception of the two coins of Gallienus, all are Athenian; the majority were minted in the time of Hadrian or later, while a few are apparently Augustan. A preliminary examination indicates that some 47 new reverse dies are illustrated in the hoard and at least 8 new obverse dies. It is noticeable, however, that the combinations of obverse and reverse dies vary greatly from those illustrated in Svoronos' plates. These considerations, combined with the generally good condition of the coins, render the group of considerable interest for the study of the Athenian imperial issues.

The reverse types are listed below. It is to be noted that no less than 76 show Athena in various aspects while another 10 have a table of offerings bearing a bust of the goddess.

Athena Parthenos Pl. 44, b, c.....	27	coins
Athena Parthenos, variants.....	2	"
Athena, owl on one hand, upright spear in the other Pl. 44, d....	3	"
Athena half r., shield on l. arm, holding top of spear.....	1	"
Athena facing, looking l., shield on l. arm, holding shaft of spear Pl. 44, a	2	"
Athena from rear, looking r., owl on r. hand, spear and shield in l., snake r. Pl. 44, e.....	1	"
Athena standing at r., olive tree l. Pl. 44, f.....	4	"
Athena standing, patera in r. hand, spear and shield in l.....	3	"
Athena moving r.....	8	"
Athena Promachos	17	"
Athena seated l.	3	"
Athena driving chariot.....	5	"
Table of offerings Pl. 44, k, l.....	10	"
Olive tree, owl and amphora l.	5	"
Olive tree, owl l., amphora r.	4	"
Boukranion Pl. 44, m, n.....	19	"
Acropolis with Theatre of Dionysos Pl. 44, i.....	1	"
Acropolis, northwest slope including great stairway Pl. 44, j....	1	"
Themistokles	3	"
Theseus killing the Minotaur Pl. 44, h.....	5	"
Hermes	2	"
Demeter in a serpent chariot.....	1	"
Apollo Alexikakos	1	"

¹⁹ Cf. *Hesperia*, XVII, 1948, p. 192; XVIII, 1949, p. 218; XXVI, 1957, p. 101.

Zeus seated r. Pl. 44, g.	1	“
Asklepios	1	“
Herakles, Farnese type	1	“

INSCRIPTIONS

Among the inscriptions of the season several are of particular interest. From the demolition of the Excavation House at the north foot of the Areopagus came a fragment of a list of names, apparently from a public funeral monument, in large letters arranged stoichedon in a style that indicates a date somewhat before the middle of the 5th century B.C. (Pl. 45, a). Two other fragments of the same large stele had previously been found in the Agora, while four more exist in the Epigraphical Museum.²⁰ Broken into pieces of convenient size for building purposes, the marble had been scattered widely throughout the northwestern part of the city. Among the names on the new fragment is the very rare Ἀγασικρ[άτης]. The only other known occurrence of this name is on an unusual red-figured cup from the Agora where it is inscribed in purple paint on the inside of the wall: Ἀγασικ<ρ>άτης καλ[ός]ς (Pl. 45, c). The cup has been assigned by Beazley to the Manner of Euphronios, perhaps by the master himself.²¹ It would seem by no means impossible that the man who was *kalos* in the late 6th century should have been recorded as a war casualty on the stele.²²

A second inscription came to light in a context of the 4th century after Christ in a well at the extreme northeast foot of the Areopagus (Q 19).²³ The document, dating from the 4th century B.C., is concerned with the Epimeletai of the Mysteries of Demeter and Persephone. Though the text is fragmentary, it may be expected to shed light on the organization of the cult in the Eleusinion. The inscription was found at a spot just below and about 50 m. west of the sanctuary.

RED-FIGURE VASES ²⁴

Among the quantities of pottery from the household deposits on the slopes of

²⁰ The newly found Agora piece is I 953 c. Height 0.30 m., width 0.24 m., thickness 0.175 m., letter height 0.015 m. Pentelic marble. Broken all around; back rough picked. For the previously known Agora fragments cf. *Hesperia*, XV, 1946, p. 169, no. 18. The pieces in the Epigraphical Museum have been published as *I.G.*, I², 933. In the spring of 1958 two other fragments were recovered from the debris of the Excavation House.

²¹ P 7901. Diam. 0.16 m. From a well outside the southwest corner of the Agora. Base, one handle and much of the floor missing. On the interior a courting scene of which there remain two interlocking pair of feet, an aryballos, sponge and strigil (?). Relief contours throughout. Lip offset. Cf. J. D. Beazley, *A.R.V.*, p. 19, no. 7; *A.V.C.*, pp. 29-30, γ 15.

²² The identification was first proposed by Lucy Talcott.

²³ I 6794. Height 0.49 m., width 0.285 m., thickness 0.175 m., height of letters 0.006-0.009 m. Hymettian marble. Broken all around. Opisthographic. Cf. R. E. Wycherley, *Athenian Agora*, III, p. 225.

²⁴ The notes on the red-figure are by Lucy Talcott.

the Areopagus little is notable for high artistic merit, but there are several pieces of red-figure which give entertaining glimpses of life in Athens in archaic times. Of the three pieces illustrated here the earliest (Pl. 45, b) comes from the neck of a volute krater.²⁵ Something over a quarter of the circumference remains, giving the central bull-grappling scene, set off to either side by a slender tree. To left, and no doubt originally also to the right, are the protagonist's friends and assistants. One youth, with stick in hand, is ready to keep the bull in the ring; the second who, for all his dreamy gaze and enveloping cloak, is likewise equipped with a stick, could no doubt leap from the seat to which he is so little adjusted if the necessity of the fight demanded. The bull-grappling scene recalls representations of Theseus and the Marathonian Bull; our picture seems less than heroic. The composition, a favorite with early archaic painters, has recently been discussed by Sir John Beazley, with special reference to the bull-fighter's companions.²⁶

The second piece, an oinochoe (Pl. 45, d), has been attributed by Sir John Beazley to Myson.²⁷ The subject, a komos, is a favorite with this painter; the revellers on his column krater in Würzburg²⁸ are close to ours in style and spirit, but the tighter composition of the two-figure group is the more effective, and the new piece is perhaps one of his happiest renderings of the familiar theme. The contrast between the two youths is clearly set forth. He in the lead has called the tune; he carries no burden, but looks back to assure his friend that his effort will be worth while. The friend is perhaps not wholly convinced, but pants along eagerly carrying on his shoulder the great, wreathed wine jar and the convenient dispensing jug. The flute-case in the field behind serves to suggest the character of the party in prospect. The piece is among the earliest oinochoai of Shape III (chous) painted in the red-figure technique; the net pattern above and the double-dots at the sides of the panel are not characteristic for this shape in red-figure; they are borrowed from late black-figured oinochoai of this shape, or from contemporary red-figured vases of other forms.²⁹

²⁵ P 25978. From the filling of a pit (Q 20:1) in which was found also the bearded head, S 1997, Pl. 43, a above. Pres. H. 0.17 m., diam at rim est. ca. 0.38 m. Relief contour; hair lines incised; added red for wreaths of all three figures, and for leaves on trees.

²⁶ *Attic Vase Paintings in the Museum of Fine Arts, Boston*, Part II, Boston, 1954, pp. 12-13.

²⁷ P 25965. Pres. H. 0.123 m. Partial relief contour; red for the wreaths of both figures and for the inscriptions in the field: *kalos* and a second, illegible, perhaps also *kalos*. At the left of the panel, a graffito in large letters:]ΝΟ<

²⁸ *A.R.V.*, p. 169, no. 2; E. Langlotz, *Gr. Vasen*, Munich, 1932, pl. 193, no. 526, dated ca. 500 B.C. For a two-figure group, see the pelike in Syracuse, *A.R.V.*, p. 171, no. 36; *C.V.A.*, pl. 1. For another version of a single figure carrying both wreathed jar and jug, see the pelike in the Robinson Collection, *A.R.V.*, p. 171, no. 40; *C.V.A.*, ii, pl. 24, 2.

²⁹ Note however the Agora oinochoe, P 10408, van Hoorn, *Choes and Anthesteria*, fig. 82, where the double dots appear as a lower border.

The fragment of a small kylix³⁰ of which the interior is shown on Plate 46, a shows a satyr intent on carrying a huge mixing bowl, a column krater, obviously full and heavy. The painter seems to have shared his subject's anxiety; if one may judge from the satyr's clasped right hand, useful assistance has been provided in the shape of side handles for the great pot, a feature unknown on actual vases of the shape. The love-name *Chairias*, the letter forms of the inscription, and to some extent also the style of the painting, in particular the long stringy arms, relate this piece to a series of cups found earlier in the Agora.³¹

MISCELLANEOUS

From beneath a house floor at the north foot of the Areopagus comes the perfectly preserved lamp of mid 4th century date shown in Plate 46, b.³² Apart from its condition, the lamp is chiefly remarkable for the graffiti scratched on its top. Six men's names appear, all written retrograde: Philodemos, Antikleides, Praxias, Arkesilas, Alkias and Antimedes. Was this perhaps a memento of some happy dinner party, composed late in the proceedings? The backward writing, however, smacks of magic, and the lamp may have been deliberately buried under the floor as the bearer of a curse.

A near-by cistern, abandoned in the first half of the 2nd century B.C., yielded a small ivory plaque with an ivy-wreathed head of a satyr carved in low relief (Pl. 46, c).³³ Four small drilled holes near the rear edge of the plaque indicate that it had been pinned to a backer, presumably some fine piece of furniture.

The terracotta medallion of Plate 46, d was found in a late Roman context in association with the bathing establishment at the northwest foot of the Areopagus.³⁴ Athena is represented with attributes drawn from both the Parthenos and the Promachos. Her helmet is that familiar from the Parthenos, Attic type, triple-crested with a sphinx in the middle and a Pegasos to either side, and animal protomes above the frontlet; the design on the cheek plate has been rubbed to illegibility. The shield

³⁰ P 25960. Max. dim. 0.094 m. Type B or C; stem missing. Outside black. Relief contour. Red for wreath and inscription.

³¹ Assigned by Beazley to the Painter of Agora P 24102; cf. *Hesperia*, XXV, 1955, p. 72, note 1, pls. 32-33. With the work of this painter Beazley compares (*Paralipomena*, p. 2290) an unpublished cup-fragment from the Agora, P 251, the head of an hetaira, recalling the name piece; and also (*Paralipomena*, p. 2542) a cup-fragment from Corinth (*Hesperia*, VI, 1937, p. 272, no. 21, fig. 13) showing the head of a woman at a large scale, not unlike the Agora cup P 23146, *Hesperia*, XXIII, 1954, pl. 15, f.

³² L 5298. Length 0.12 m. Glazed inside and out except for the underside of the base; the glaze has been scraped from a groove around the filling hole.

³³ BI 762. Height 0.10 m.; thickness 0.007 m.

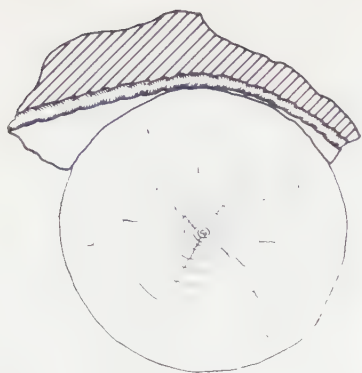
³⁴ T 3519. Diam. 0.095 m.; Th. 0.025 m. Buff clay with no trace of glaze or paint. The medallion was moulded as a separate piece and set into the floor of a large bowl, from which it was subsequently broken out and roughly trimmed.

carried on the arm, however, and the spear resting on the shoulder would be more appropriate to the Promachos. The miniature is perhaps to be thought of as a contamination of the two great Pheidian works. The piece dates from the 3rd century after Christ, an era prolific in such echoes of the past.³⁵

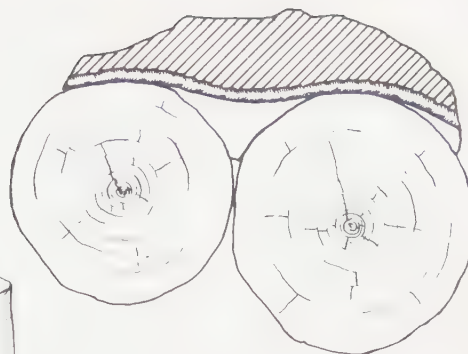
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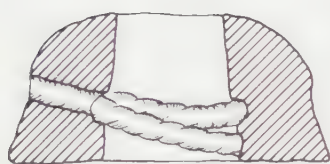
³⁵ For other terracotta versions from the Agora cf. *Hesperia*, XVII, 1948, pp. 182 f., pl. LXII. Illustrations of minor works echoing the Parthenos and Promachos have been conveniently assembled by G. Beccati, *Problemi Fidiaci*, Milan-Florence, 1951, pls. 63, 86, 87.



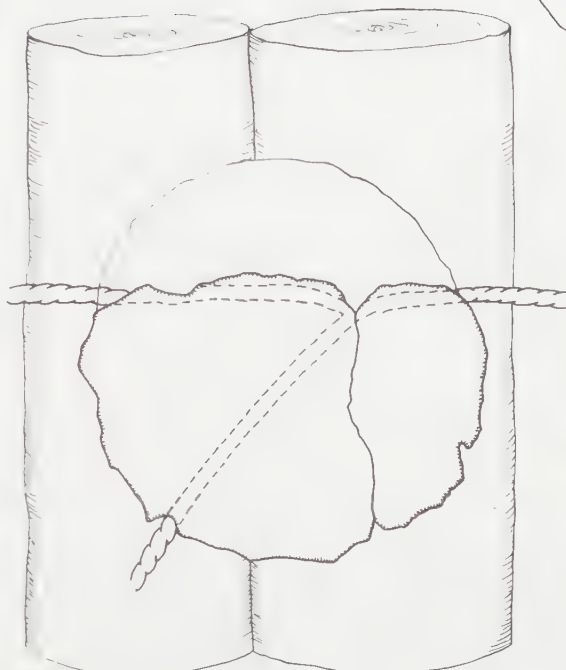
Type A. No. 12. Section, with pole restored



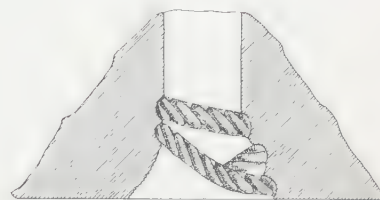
Type A. No. 13. Section, with poles restored



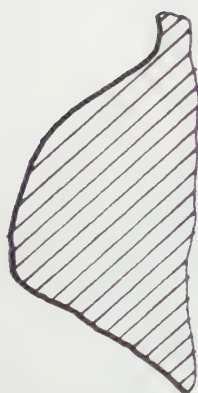
Type B. No. 43. Restored Section



Type A. No. 13. Two Fragments, from above, restored



Type B. No. 45. Restored Section



No. 74



No. 76



No. 78



No. 79

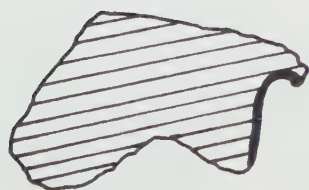


No. 80

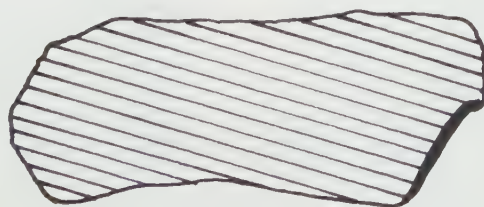


No. 86

Type C

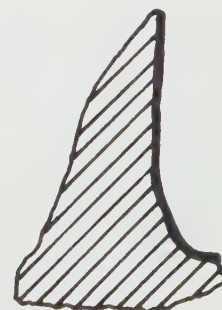


No. 94



No. 95

Type D



Type E. No. 112



No. S1



No. S2



No. S3



No. S4



No. S5



No. S6



No. S7



No. S8



No. S9



No. S10



No. S11



No. S12



No. S13



No. S14



No. S16



No. S17



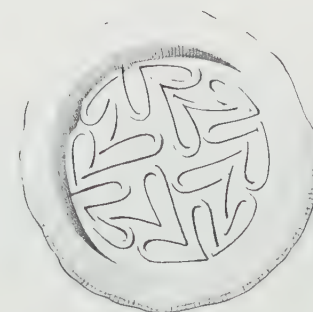
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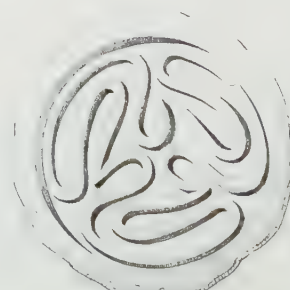
No. S19



No. S20



No. S21



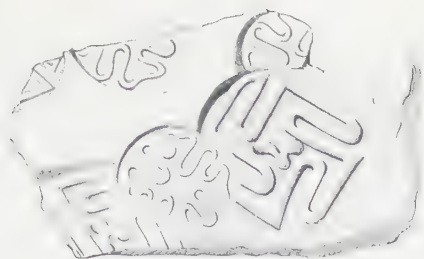
No. S22

Drawings by Piet de Jong

MARTHA C. HEATH: EARLY HELLADIC CLAY SEALINGS FROM THE HOUSE OF THE TILES AT LERNA



No. S23



No. 44. S24, S25



No. S25



No. S26



No. S27



No. S28



No. S29



No. S30



No. S31



No. S32



No. S33



No. S34



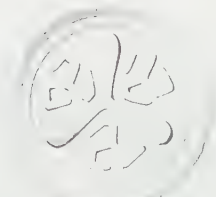
No. S35



No. S36



No. S37



No. S38



No. S40



No. S39



No. S41

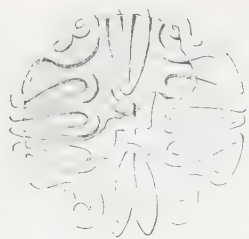


No. S42



No. S43

Drawings by Piet de Jong



No. S44



No. S45



No. S46



No. S47



No. S48



No. S49



No. S50



No. S51



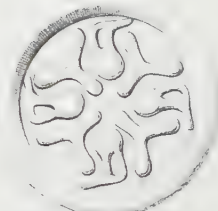
No. S52



No. S53



No. S54



No. S55



No. S56



No. S57



No. S58



No. S59 (3:2)



(1:2)



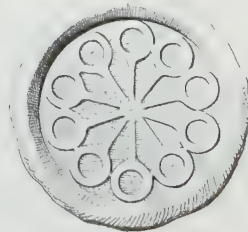
No. S60



No. S61



No. S62

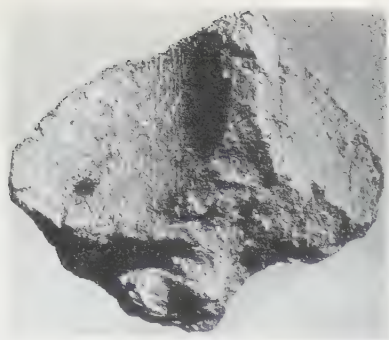


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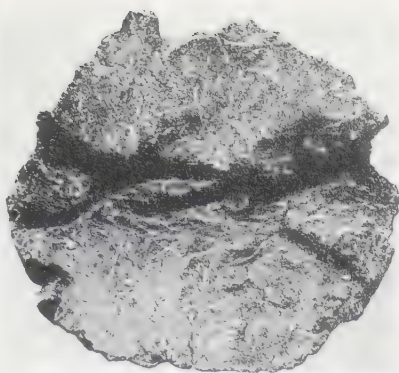


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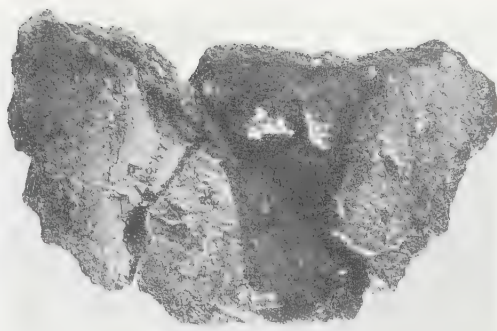
Drawings by Piet de Jong



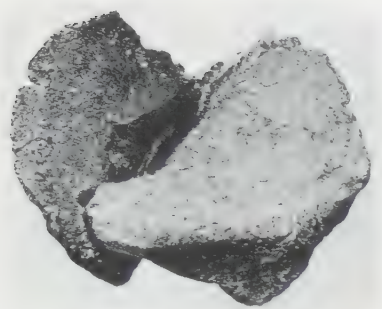
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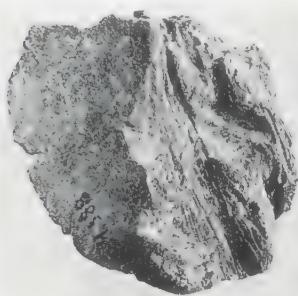
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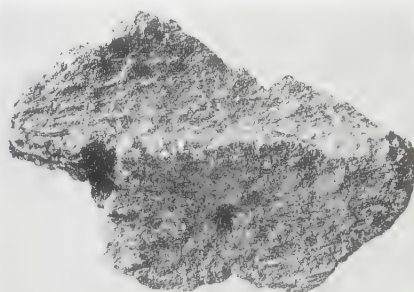
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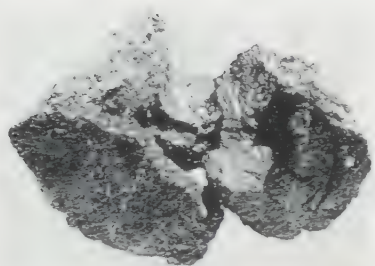
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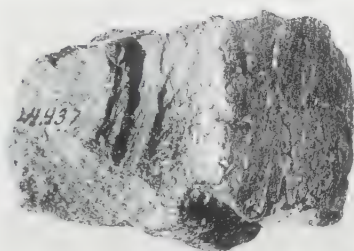
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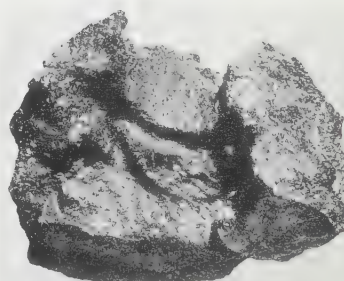
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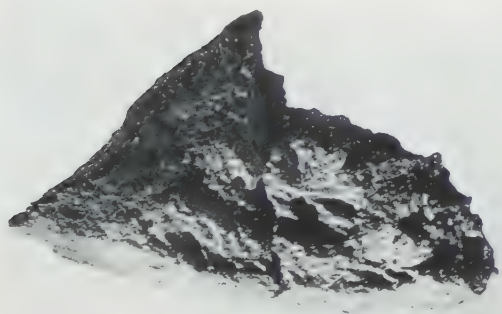
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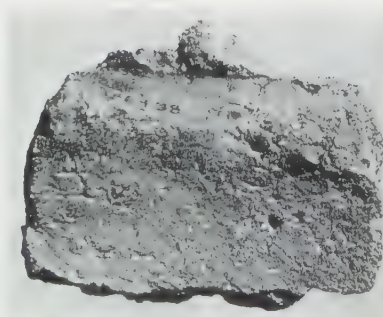
No. 44



No. 45



No. 66



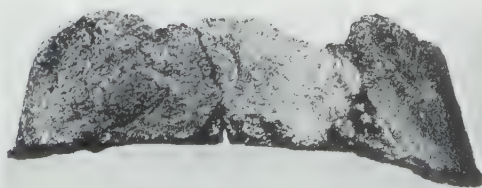
No. 76



No. 78

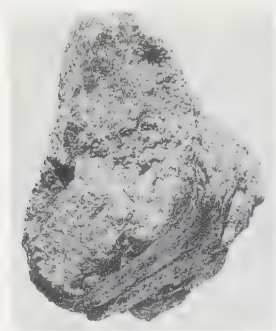


No. 74



No. 74

Backs of Sealings



No. 83



No. 86



No. 92



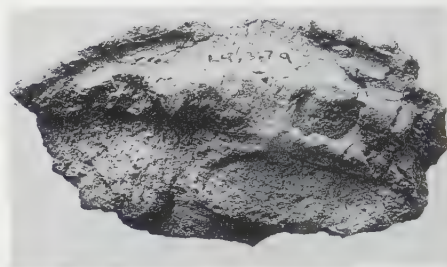
No. 126



No. 89



No. 93



No. 94



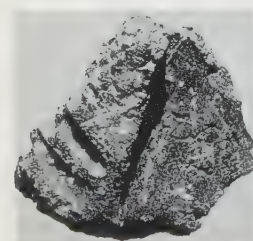
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No. 107



No. 110



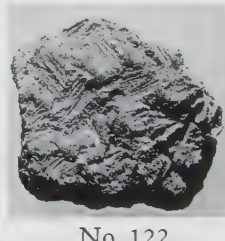
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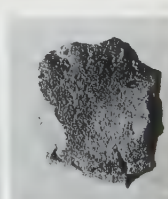
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No. 118



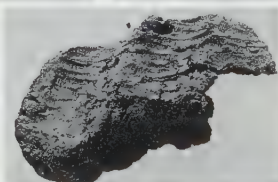
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No. 142



No. 119



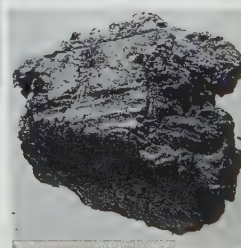
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No. 127



No. 130

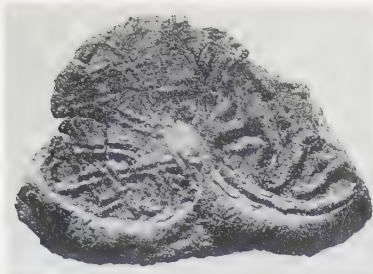


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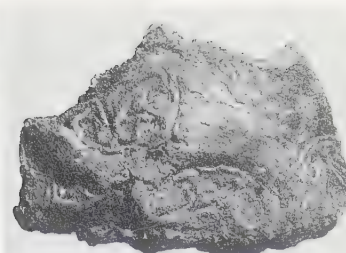
Backs of Sealings



No. 1. S1



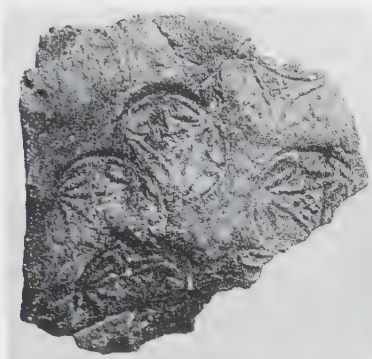
No. 7. S1, S57



No. 37. S2



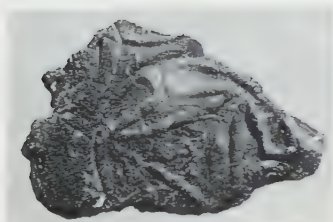
No. 35. S3



No. 124. S3



No. 137. S4



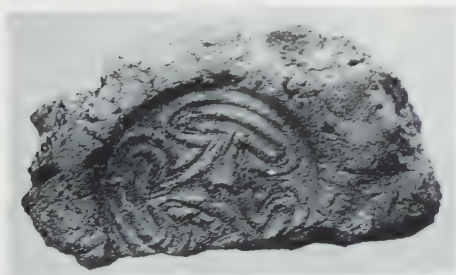
No. 125. S5



No. 73. S6



No. 36. S7



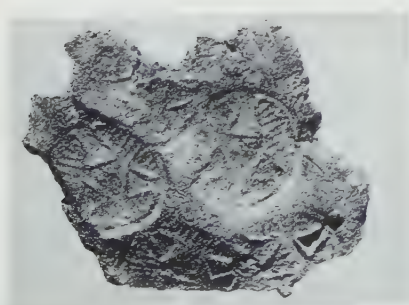
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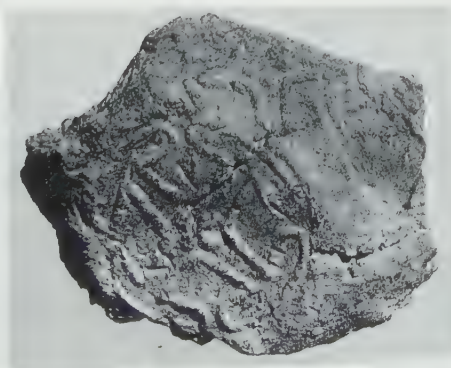
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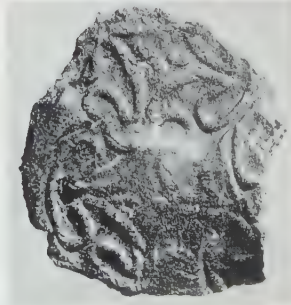
No. 127. S10



No. 10. S11

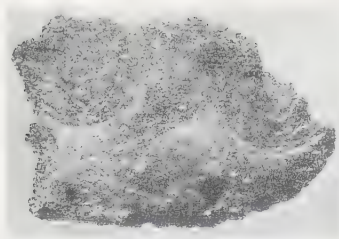


No. 101. S12



No. 71. S13

Fronts of Sealings



No. 75. S14



No. 97. S14, S59



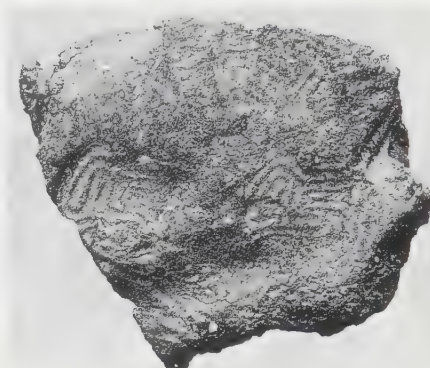
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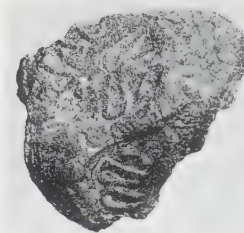
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No. 129. S16



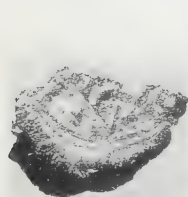
No. 89. S18



No. 104. S19



No. 131. S30



No. 105. S20



No. 43. S21



No. 11. S22



No. 76. S23



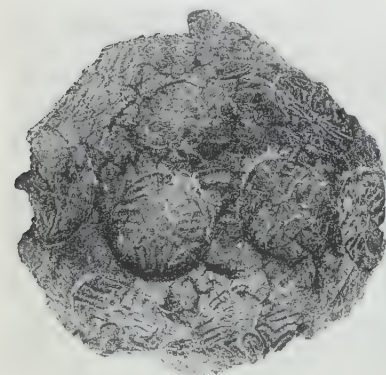
No. 44. S24, S25



No. 48. S25



No. 13. S26



No. 12. S26



No. 118. S27

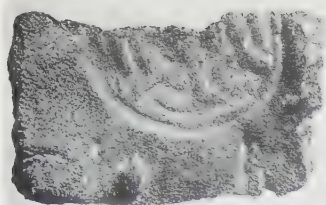


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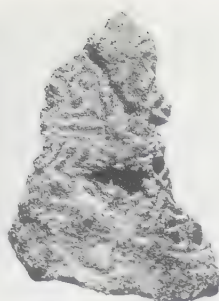


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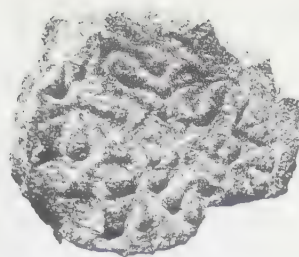
Fronts of Sealings



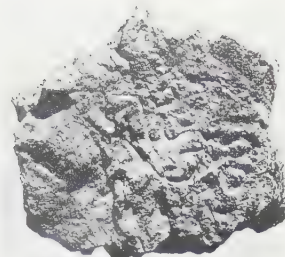
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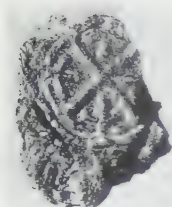
No. 49. S32, S41



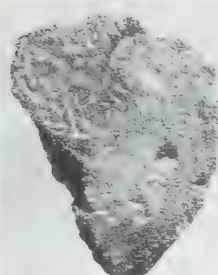
No. 50. S32, S41



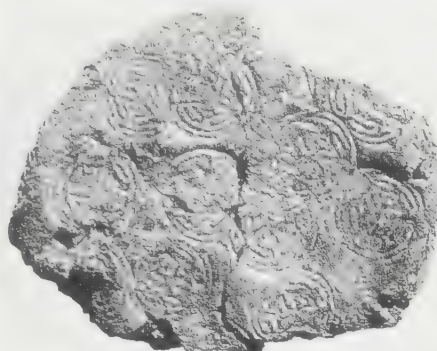
No. 138. S32, S41



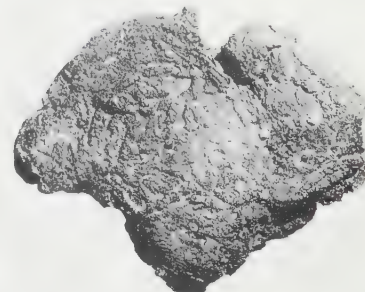
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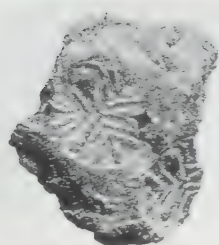
No. 106. S34



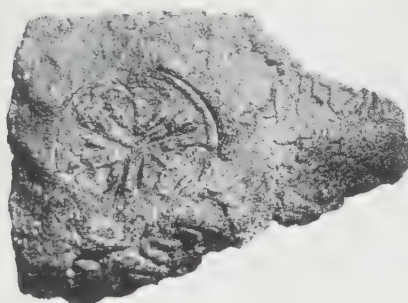
No. 92. S35



No. 132. S36



No. 72. S37



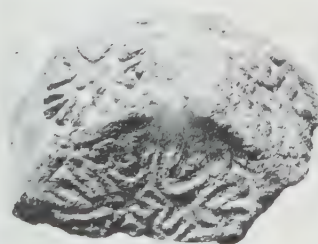
No. 52. S38



No. 107. S39, S40



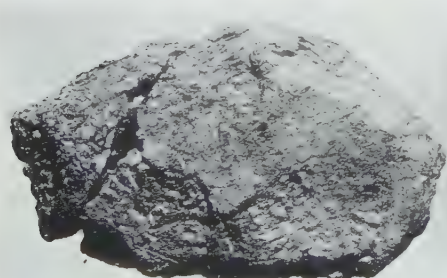
No. 53. S39, S40



No. 108. S39, S40



No. 78. S40



No. 93. S42



No. 119. S43



No. 109. S44

Fronts of Sealings



No. 110. S45



No. 21. S46, S55



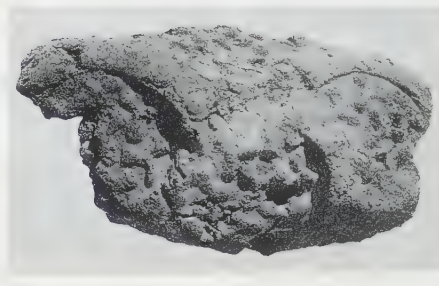
No. 57. S47



No. 133. S48



No. 23. S49



No. 134. S50



No. 25. S51



No. 113. S52



No. 94. S53



No. 27. S54



No. 58. S55



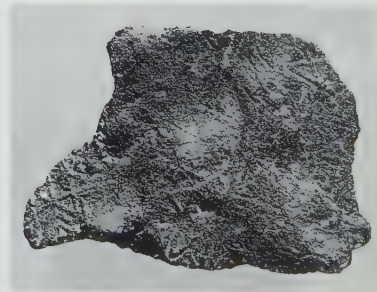
No. 30. S56 1 Fragment



No. 30. S56 2 Fragments

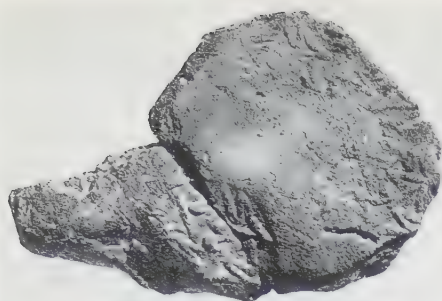


No. 66. S57



No. 79. S58

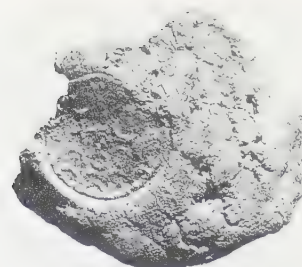
Fronts of Sealings



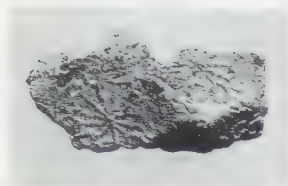
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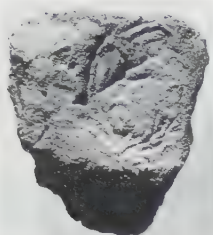
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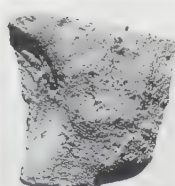
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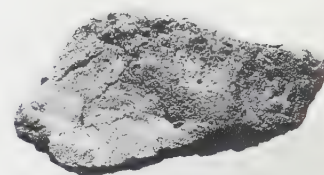
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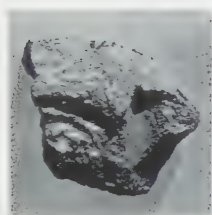
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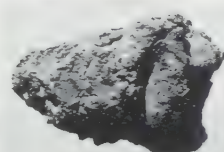
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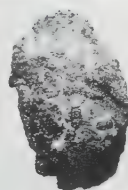
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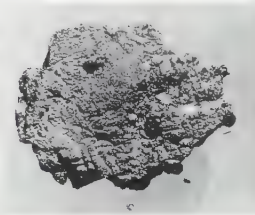
No. 114. S66



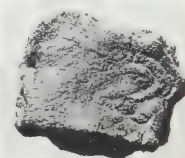
No. 120. S67



No. 136. S68



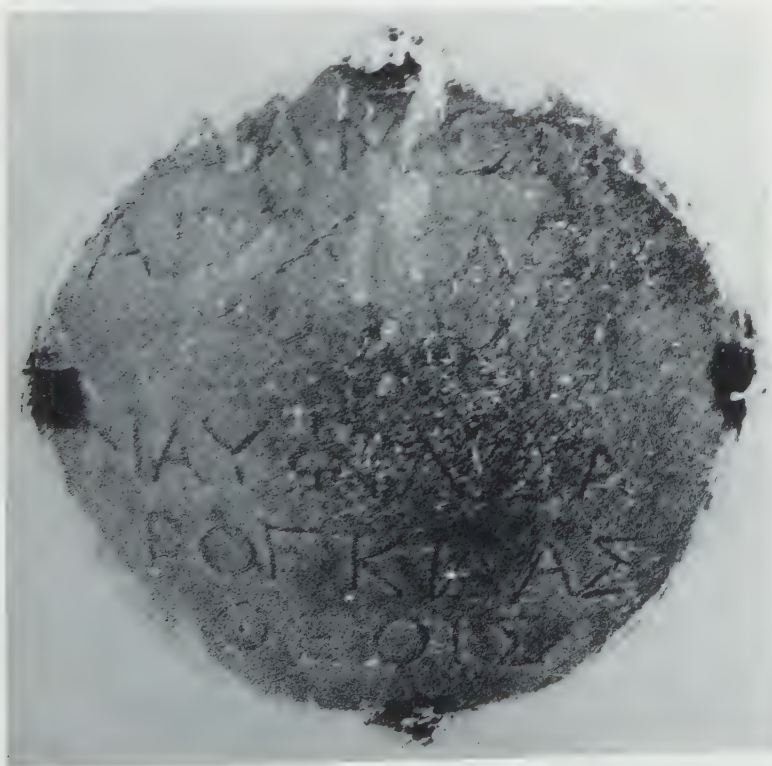
No. 140. S69



No. 141. S70

Fronts of Sealings

MARTHA C. HEATH: EARLY HELLADIC CLAY SEALINGS FROM THE HOUSE OF THE TILES AT LERNA



No. 1



No. 4

MICHAEL H. JAMESON: INSCRIPTIONS FROM KARPATOS



Principal Area of Excavation from Northwest, with House of the Tiles exposed, July 1957. (Photograph by Alison Frantz.)

JOHN L. CASKEY: EXCAVATIONS AT LERNA, 1957.



a. House of the Tiles from West. (Photograph by Alison Frantz.)



b. Excavated Area from East. Part of Early Helladic Defensive System exposed, at left; House of the Tiles at right. (Photograph by Alison Frantz.)

JOHN L. CASKEY: EXCAVATIONS AT LERNA, 1957.



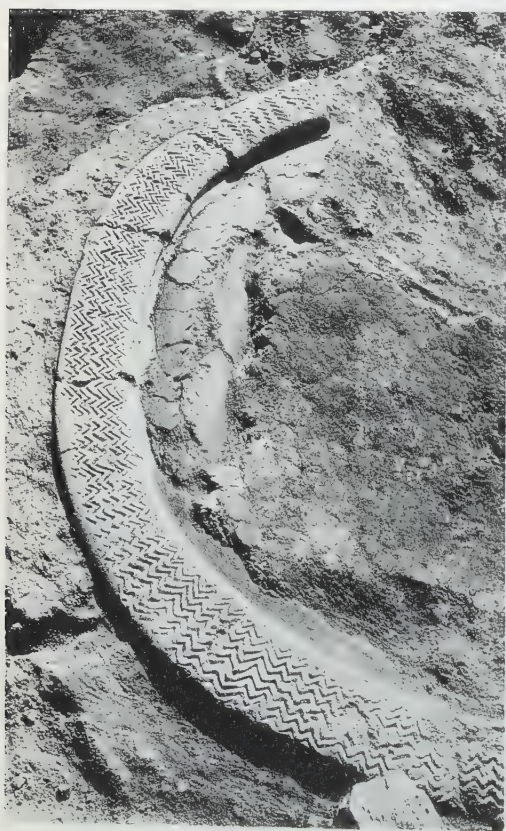
a. Area BF. Part of Middle Helladic House.



b. Excavation of Area BF. From Southeast.



d. Remains of Early Helladic Hearth cleared of Deposits.



c. Trench HTN. Rim of Early Helladic Hearth. Interior full of Ashes.



e. Pit BD. Neolithic Wall, Jar, and Bothros.



a. Squares F-G 7-8. Part of Early Helladic Defensive System with projecting Towers, from Northeast.



b. Partition Wall between Compartments P and Q.
Crude Bricks in place above Sockle of Herringbone Masonry.

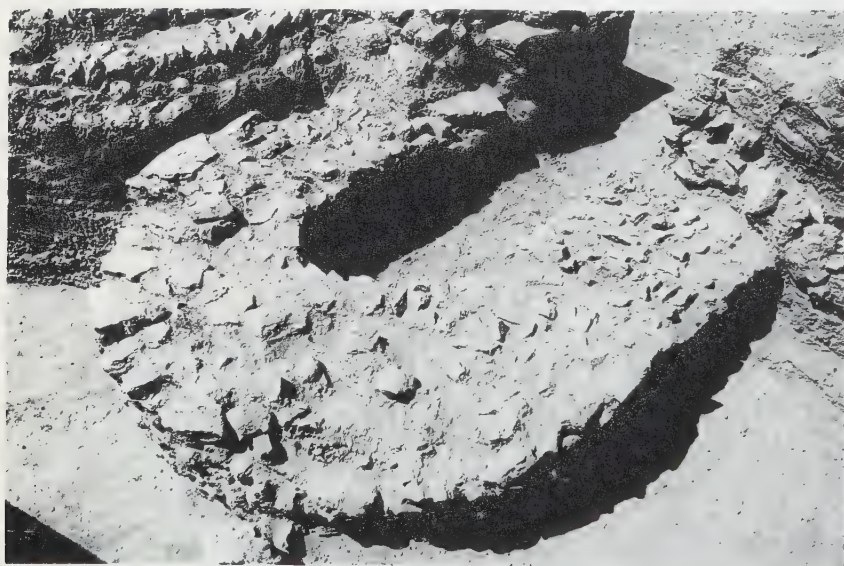
JOHN L. CASKEY: EXCAVATIONS AT LERNA, 1957.



a. Tower U from Southwest. Tower V at left.



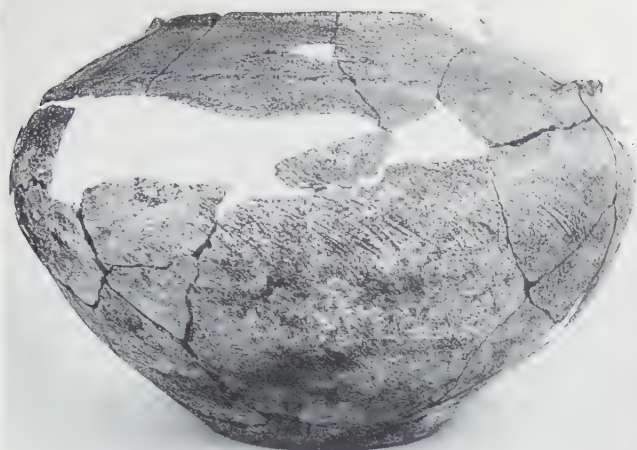
c. Stairway W partly covered by Corner of Tower V, from Southeast.



b. Tower U from Southeast.



d. Upper Steps of Stairway W from Southeast.



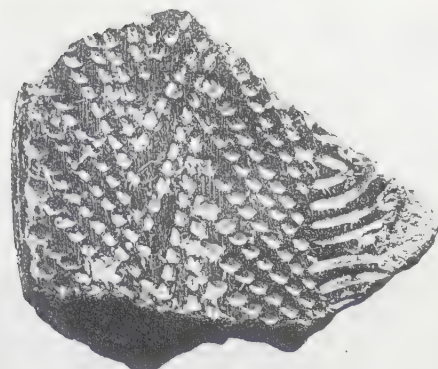
a. Squat jar from Compartment Q-R (1:3).



b. Bowl from Compartment Q-R (1:3).



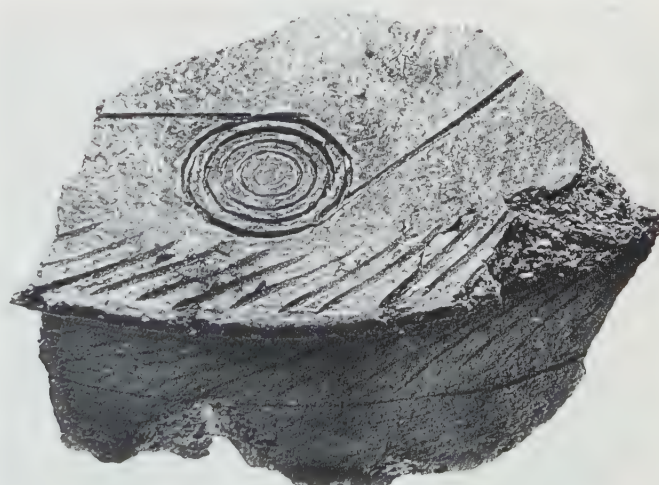
c. Jug from Tower U (1:3).



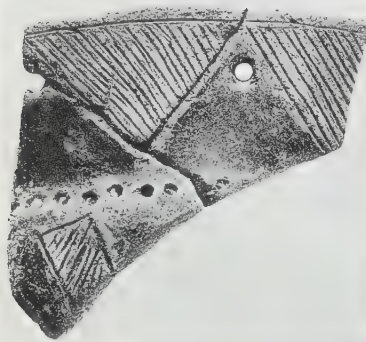
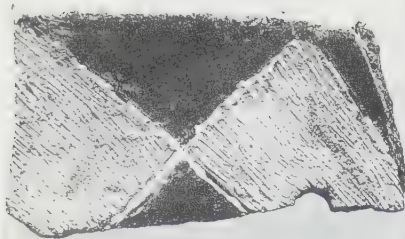
d. Sherd with Incised Pattern (1:1).



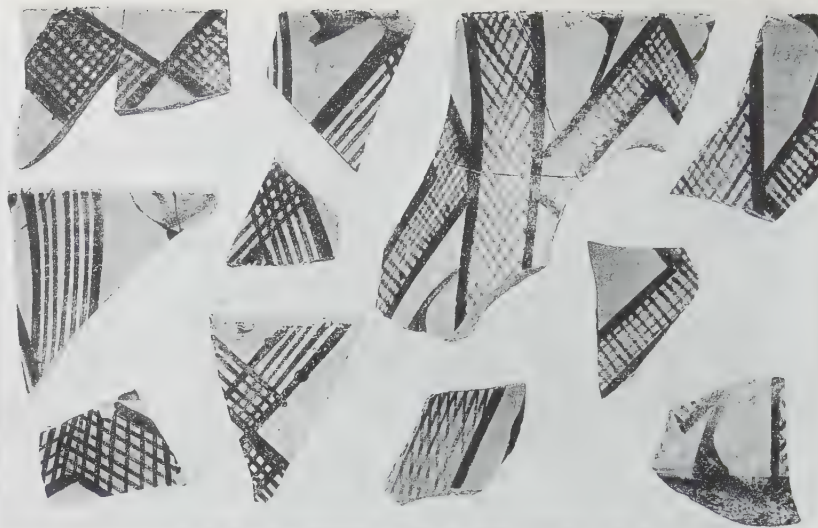
e. Sherd with Stamped Spirals (1:1).



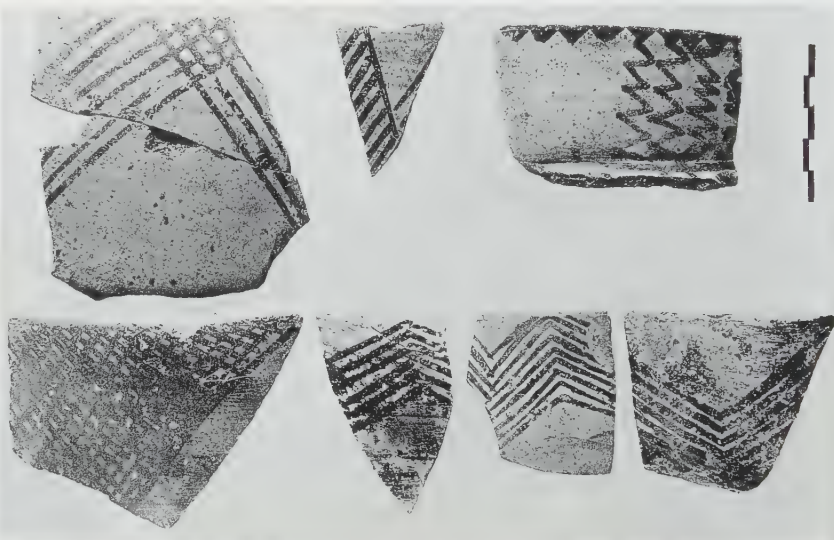
f. Fragment of Lid with Stamped and Incised Patterns (1:1).
Sherds d-f from earliest E.H. Deposits.



a-c. Late Neolithic incised Black Ware (1:1).



f. Neolithic Patterned Ware, later Fine Style (1:2).



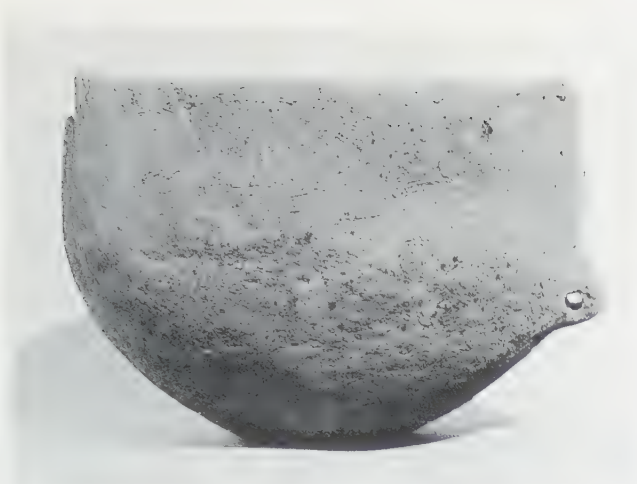
g. Neolithic Patterned Ware, Earlier Style.



d, e. Fragment of Neolithic Terracotta Figurine, front and back (1:1).



h. Neolithic Patterned Ware, Earlier Style (3:5).



a. Red Bowl from late Neolithic Grave HTN.1 (1:2).



d. Neolithic Jar with tubular Lugs from Pit BD (1:3).



b. Dark Gray-brown Burnished Bowl from Grave HTN.1 (1:2).



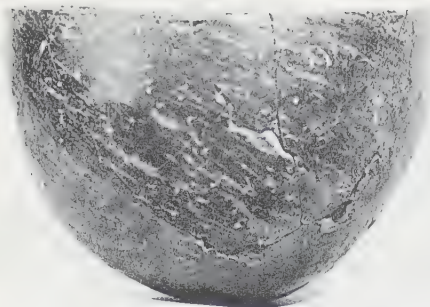
e. Neolithic Jar with small Ledge-lugs from Pit BD (1:3).



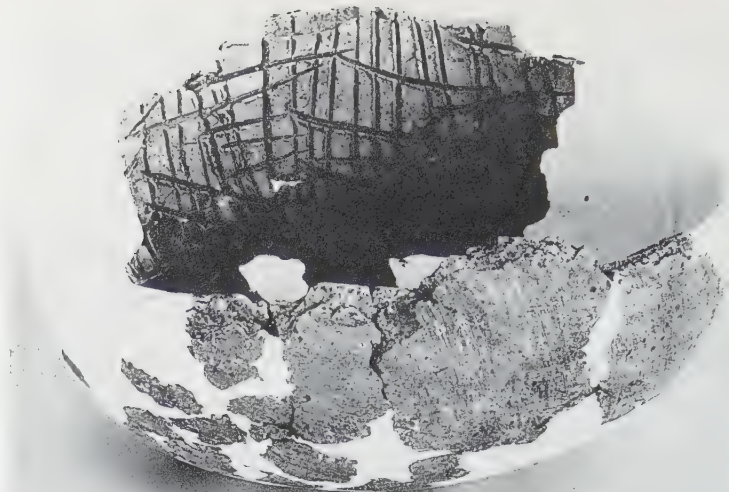
c. Bowl with White Incrustation and traces of Red Paint, probably from Grave HTN.1. Foot missing (1:3).



f. Neolithic Globular Jar from Pit BD (1:4).



a. Early Neolithic Black Burnished Bowl from Grave in Pit BD (1:2).



b. Fragment of Jar with deep Scoring on Interior from Early Stratum in Pit AP.



c. Fragment of large Carinated Bowl from Trench HTN (2:5).



d. Fragment of Piriform Jar from Trench HTN (2:5).



e, f. Fragment of high Pedestal or Stand from Trench HTN. Exterior and Interior.



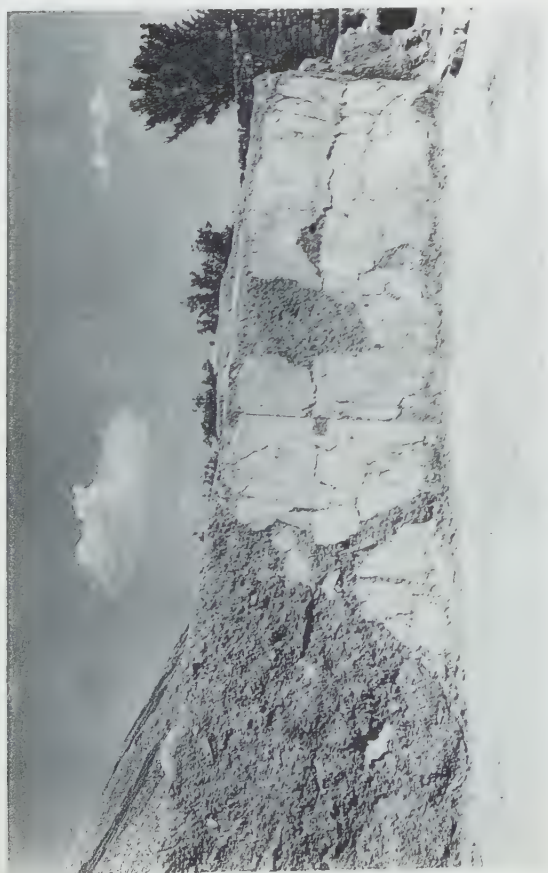
c. Socles of Early Helladic Fortification Walls partly rebuilt. Neolithic House 17 in pit at right. From Northwest.



b. House of the Tiles. North Jamb of Door H partly rebuilt with Fragments of Roof Tiles. Enclosure Wall in background. From Southwest.



d. Northwestern Corner of Excavated Area with Retaining Walls, from South. Shelter over House of the Tiles at right.



a. House of the Tiles. West Wall of Room XII from Southeast.

JOHN L. CASKEY: EXCAVATIONS AT LERNA, 1957.



a. Shelter over House of the Tiles from Southeast. Protective Copings over Crude Brick Walls in foreground.



b. View of Site from Southwest, September 1957.



c. Myloi and Mt. Pontinos from the Sea.

JOHN L. CASKEY: EXCAVATIONS AT LERNA, 1957.



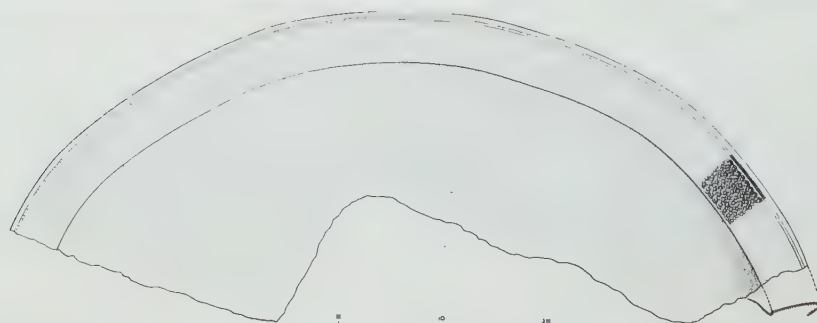
a. Pipe line of 5th Century B.C. on North Slope of Areopagus.



b. Well House of late Roman date on North Slope of Areopagus (arrow points to mouth of well).



c. Stone-curbed Pit to West of Panathenaic Way.



Votive Objects from Stone-curbed Pit.



a. Archaic Marble Head. *Ca.* 1:2.



b. Julia Domna. *Ca.* 2:3.



c. Poros Pediment. *Ca.* 1:6.



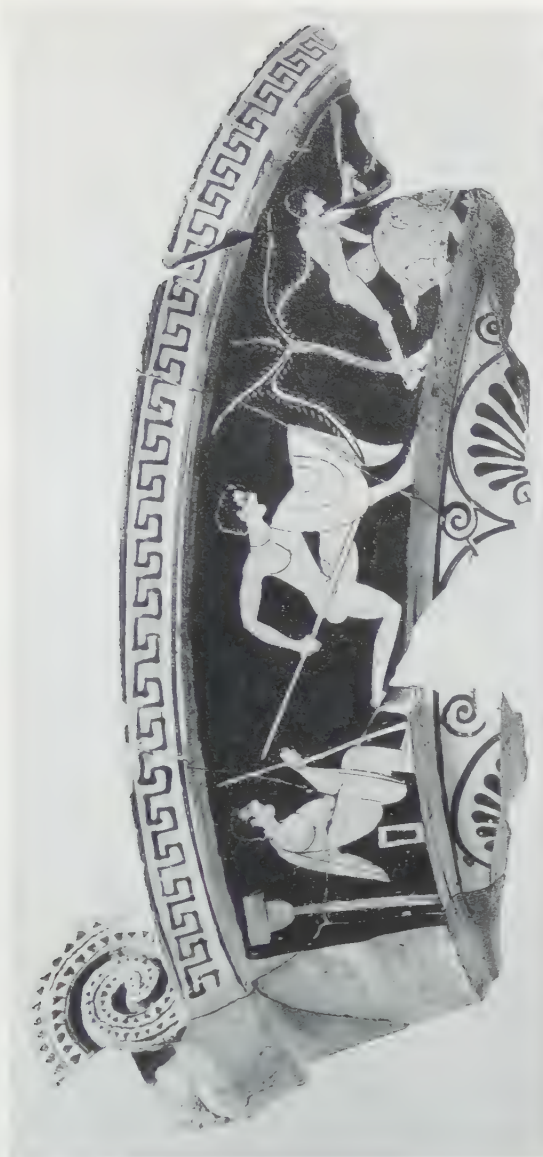
d. Statuette of Askepios. *Ca.* 1:3.



Part of a Hoard of Athenian Imperial Bronze. Obverses above, Reverses below.
 HOMER A. THOMPSON: ACTIVITIES IN THE ATHENIAN AGORA: 1957.



a. Marble Inscription I 953 c. Ca. 1:4.



b. From a Volute Krater. Ca. 1:3.



c. Red Figured Cup in manner of Euphronios. 1:2.



d. Oinochoe by Myson. 3:5.

HOMER A. THOMPSON: ACTIVITIES IN THE ATHENIAN AGORA: 1957.



a. Kylix by Painter of Agora P 24102. 1:1.



b. Lamp with incised Names. 1:1.



c. Ivory Plaque. 1:1.



d. Terracotta Medallion with Bust of Athena. *Ca.* 1:1.

IN THE CRYPT UNDER THE NORTH PORTICO OF THE ERECHTHEUM

IN the summer of 1947, the late Dr. Leicester B. Holland requested permission to remove a small amount of plaster and rubble to investigate the crypt beneath the North Portico of the Erechtheum.¹ Permission was granted by the Ephor of the Acropolis, Mr. John Miliades, to open a space of thirty centimeters square.

The plaster and rubble concerned belonged to the remains of a draw-hole for a cistern constructed under and to the east of the North Portico. Examination showed the fabric to be principally brick, with scraps of poros, marble, etc. in mortar. In part it was tight against the earlier masonry which it concealed, but elsewhere pockets and seams of earth intervened. There was no mortar between the old blocks. In the rubble removed three sherds were found, one from a large, nondescript jar of coarse ware, red surfaced with a black core; it was judged by the staff of the excavations in the Athenian Agora to be Byzantine rather than Turkish.

Upon removal of a small portion of the draw-hole wall, the marble block E (Fig. 1) was more fully exposed, together with the poros block F below it. Between the latter and the poros block G to its left, or east of it, is a gap of 0.01 m., or 0.006 m. from the anathyrosis on G. This anathyrosis was cut back 0.002 m. to fit tightly against block E. The upper corner of block E is worn in a curve extending some 0.26 m. from this tight joint. All three blocks are cut to finished faces on their outer or northern sides, but F and the poros block below it are weathered rough. By probing between F and G Dr. Holland found the gap to run inward (to the south) at least 1.30 m. from the face of the blocks, while E extended westward some 0.60 m. and F about 0.50 m.

If, as shown in the reconstruction,² the crypt was lined with poros blocks in the late fifth century B.C., a block of the wall on the west side would have met the anathyrosis on G, and hidden E and F to which it would run at right angles. The presence of a marble block in the position occupied by E seems to be explained only by assigning it to the Cimonian structure of poros with marble trim. The now visible remains replaced the Cimonian work in the late fifth century.³

†LEICESTER B. HOLLAND

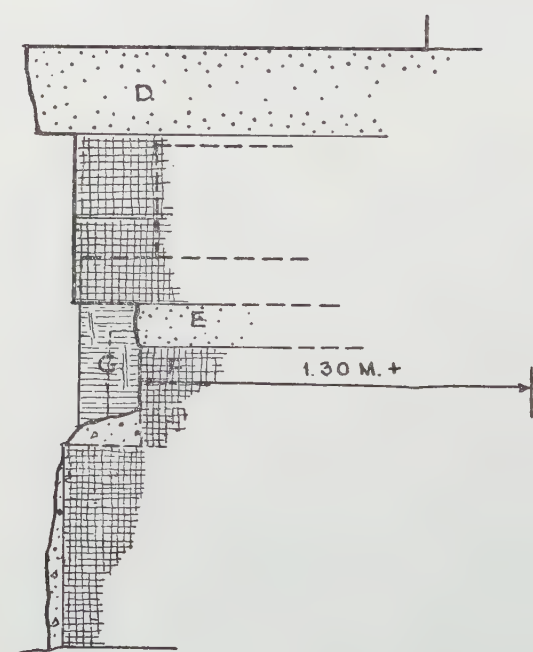
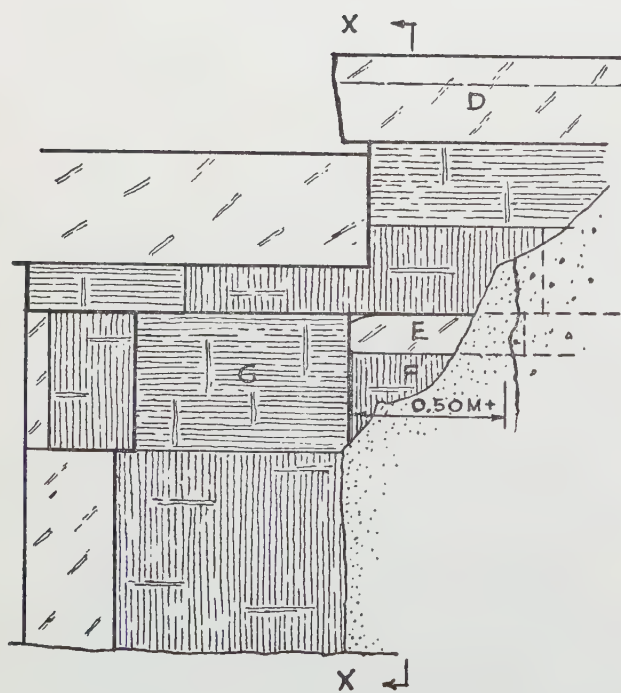
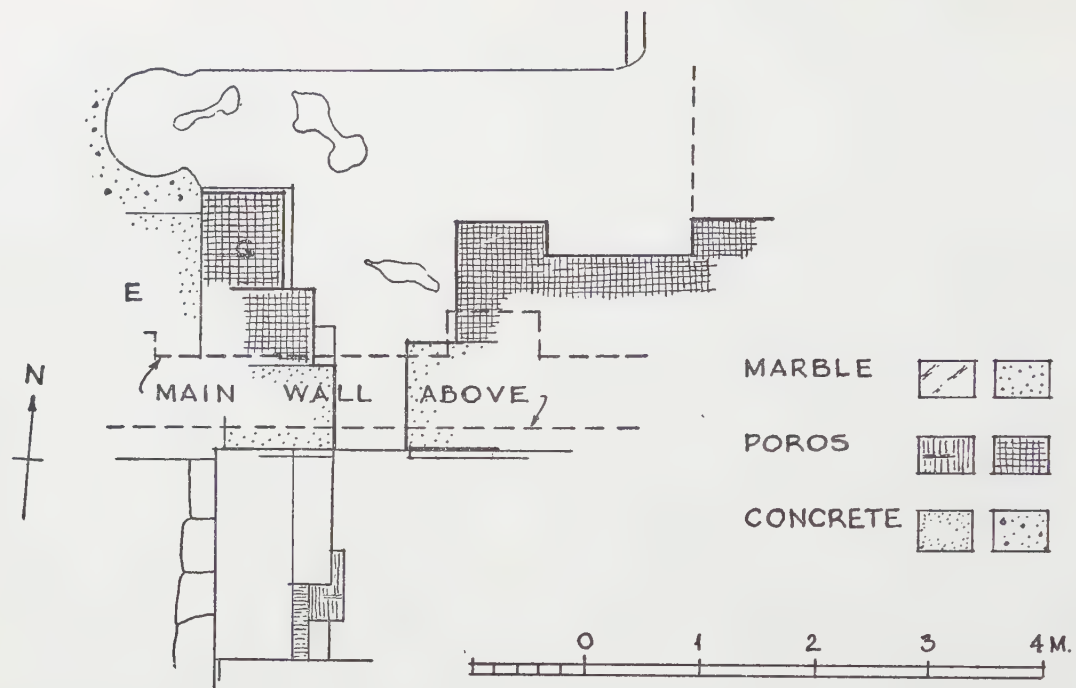
MARIAN HOLLAND McALLISTER

PHILADELPHIA

¹ The notes and measurements left by the late Leicester B. Holland were carefully kept by Louise Adams Holland who encouraged Marian Holland McAllister to check them on the Acropolis in 1952, to prepare this statement and to make the drawings which conform as far as possible with those of *The Erechtheum*, published by the American School of Classical Studies at Athens in 1927. The plan is based on pl. II; the elevation is similar to that of fig. 66(C); cf. pl. VIII. The block here marked D is so indicated in fig. 66(A).

² *Op. cit.*, fig. 66.

³ L. B. Holland, "Erechtheum Papers, IV," *A.J.A.*, XXVIII, 1924, p. 425.



THE ERECTHEUM : THE NORTH PORTICO CRYPT

M H M^A
1958

THE ATTIC STELAI*

PART III

VASES AND OTHER CONTAINERS

(PLATES 47-50)

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* Editor's Note: Part III completes the publication of *The Attic Stelai* of which W. K. Pritchett has published the text (Part I) and the earlier part of the commentary (Part II) in *Hesperia*, XXII, 1953, pp. 225-299 and XXV, 1956, pp. 178-328 (with Appendix on *The Demioprata* of Pollux X by A. Pippin). Since Part III runs to too great length for one number of *Hesperia*, the latter portion will appear in the next number, along with an Index to both Part II and Part III.

INTRODUCTION

This part of the Commentary¹ deals with pottery vases, mortars, kneading-basins, tubs, sieves, funnels and the like. On the other hand, certain other objects, although made of clay or for some other reason related to pottery containers, have already been discussed in Part II. These last include *pinakes*, boxes and box-like containers (*kibotos*, *kibotion*) and similar things, which have been treated as articles of furniture. Likewise excluded, except where the object seems physically to have some interest in itself, are those cases in which a "container" appears to be named purely as a unit of measure, or is significant only as a vehicle for the produce which

¹ For the meaning of the title "Attic Stelai" and for the scope of the whole study see W. K. Pritchett, Part II, pp. 178-179. For the opportunity to share in the study of the Attic Stelai, I am indebted to my colleague, Professor Pritchett. The final stages of the research were completed in Athens, under a liberal travel-aid grant from the Penrose Fund of the American Philosophical Society. Other financial support was received from the Committee on Research of the University of California (Berkeley). To the members of the staff of the Agora excavations, particularly to Professor Homer A. Thompson and Miss Lucy Talcott, I am obligated for help, comfort and advice of every sort. The photographs of the objects in the Agora Museum and in the National Museum at Athens are the work of Miss Alison Frantz. Miss A. Kokoni's patient and skillful typing of the manuscript has been a great blessing. Dr. Dietrich von Bothmer and Dr. Marjorie Milne have, in various ways, given important help, and Dr. Bryan Sparkes has contributed useful observations on several matters. Numerous other persons to whom I owe thanks for assistance or counsel are mentioned in the footnotes to the text. Responsibility for all conclusions is, of course, my own.

For references cited frequently the following abbreviations are used:

- A.B.V.* = Sir John Beazley, *Attic Black-Figure Vase-Painters*, Oxford, 1956.
A.R.V. = J. D. Beazley, *Attic Red-Figure Vase-Painters*, Oxford, 1942.
Beazley, E.V.P. = J. D. Beazley, *Etruscan Vase Painting*, Oxford, 1947.
Beazley, V.P. = J. D. Beazley, *Greek Vases in Poland*, Oxford, 1928.
 Bekker, *Anecd.* = J. Bekker, *Anecdota Graeca*, Berlin, 1814.
 Blümner, *Technologie*, I² = H. Blümner, *Technologie und Terminologie der Gewerbe und Künste*, I, 2nd ed., Leipzig and Berlin, 1912.
 Bobart, *Basketwork* = H. H. Bobart, *Basketwork through the Ages*, Oxford, 1936.
 Boisacq, *Dictionnaire*⁴ = E. Boisacq, *Dictionnaire étymologique de la langue grecque*, 4th ed., Heidelberg, 1950.
 Bossert and Zschietzschmann = H. T. Bossert and W. Zschietzschmann, *Hellas and Rome*, New York, 1936.
 Caskey and Beazley = L. D. Caskey and J. D. Beazley, *Attic Vase-Paintings in the Boston Museum of Fine Arts*, II, London and Boston, 1954.
 Cloché, *Classes* = P. Cloché, *Les classes, les métiers, le trafic*, Paris, 1931.
Délos, XVIII = W. Déonna, *Exploration archéologique de Délos*, XVIII, *Le mobilier Délien*, Paris, 1938.
Development = J. D. Beazley, *The Development of Attic Black-Figure*, Berkeley, 1951.
Dictionnaire = Daremberg et Saglio, *Dictionnaire des antiquités grecques et romaines*.
 Evans, *P.M.* = Sir Arthur Evans, *The Palace of Minos at Knossos*, I-IV, London, 1921-1935.
 F.-R. = A. Furtwängler and K. Reichhold, *Griechische Vasenmalerei*, Munich, 1904-1932.
 Haspels, *A.B.L.* = C. H. E. Haspels, *Attic Black-Figured Lekythoi*, Paris, 1936.

it contains (on Measures, see Pritchett, Part II, pp. 192-196). After a first rough division of the material, the authors placed quite a few items more according to their convenience than in keeping with rigid logic, but the joint Index to the Commentary (to appear in the following number of this journal) should make it easy for the reader to find any desired passage.

Two main centers of interest developed in the course of studying this group of entries: (1) the attempt to identify and describe the items listed, and (2) the interpretation of their prices. Since, however, the Stelai offer only a limited amount of description, and since even this is often preserved only in a mutilated state,² it was necessary to bring the evidence of the prices to bear upon certain questions of identification and description. With these exceptions, the order of treatment will be first an attempt to define and describe the objects, giving only brief notations of price immediately following these passages, then, in the final chapter, a discussion of these prices, taken all together and in relation to other recorded prices of comparable objects. In this way it should be possible to develop, from the evidence of the Stelai, whatever new knowledge can be gained concerning the character of the things listed in them, including the information as to prices, so that, in the end, these conclusions may be made available for their bearing on the study of Greek economics of the fifth century B.C.

Before entering into the discussion of the separate objects, it is well to state that not all of the proposed identifications are clear, or certain, or complete. In the course of the past few decades, much progress has been made in the association of Greek vase-shapes with their proper ancient names, but much still remains dark. In spite of

Langlotz, *Würzburg* = E. Langlotz, *Martin von Wagner-Museum der Universität Würzburg: Griechische Vasen*, Munich, 1932.

Lenormant and de Witte = F. Lenormant and J. de Witte, *Élite des monuments céramographiques*, IV, Paris, 1861.

Meisterhans, *Grammatik*³ = K. Meisterhans, *Grammatik der attischen Inschriften*, 3rd ed., Berlin, 1900.

Olynthus = D. M. Robinson *et al.*, *Excavations at Olynthus*, Baltimore, VIII, 1938; X, 1941; XII, 1946; XIII, 1950.

Paralipomena = J. D. Beazley, *Paralipomena to A.R.V.*, in manuscript.

Pfuhl = E. Pfuhl, *Malerei und Zeichnung der Griechen*, Munich, 1923.

Richter and Hall, *R.-F. Ath. Vases* = G. M. A. Richter and L. F. Hall, *Red-figured Athenian Vases in the Metropolitan Museum of Art*, New Haven, 1936.

Richter and Milne = G. M. A. Richter and M. Milne, *Shapes and Names of Athenian Vases*, New York, 1935.

Schefold, *Untersuch.* = K. Schefold, *Untersuchungen zu den Kertscher Vasen*, Berlin and Leipzig, 1934.

Singer, Holmyard and Hall, *Hist. of Tech.* = C. Singer, P. J. Holmyard and A. R. Hall, *History of Technology*, I, Oxford, 1954.

² For this study, the text of the Attic Stelai was accepted almost exactly as it is presented by Pritchett in Part I, with scarcely any proposals of different or fuller readings. After prolonged and earnest scrutiny of every line studied here, often verified by direct examination of the stone, I can only salute the diligence, self-restraint and acumen which his edition displays.

a vastly expanded body of archaeological material, the new *angeiology* suffers from much the same handicaps as those which brought despair to nineteenth-century scholarship—the paucity of objects or pictures of objects bearing actual labels from which the names of these things might be learned, and, on the other side, the lack of sufficient information in the definitions or uses of the ancient words to allow a precise and concrete identification of the particular kinds of objects to which these terms referred. Words are not things, and the gap between the two is great, especially in the case of man-made things.

One of the greatest sources of trouble is the very nature of the definitions which are given by, or which we can extract from, the ancient sources. We are likely, in our zeal for accuracy, to demand a much more exact image of the designated object than was really intended by the word. Especially in the use of vase-names, the ancient Greeks often meant something far more general and inclusive than we should like to believe. Vaguely defined, overlapping, even contradictory uses of individual words are the rule rather than the exception. As if these were not enough worries, there is also the fact that our definitions, whether given or wrung from the context, may be functional, metrological, or morphological, often without our being able to determine which is meant. Functional definitions, which are the commonest sort available to us, may give little or no descriptive information. Metrological statements are also unsatisfying, for both standards and terminology varied according to time and place; the measure is often cited purely as a unit of capacity, with no intended reference to any physical object, and, even when the exact measure is known, the same name may be applied to actual containers covering a wide range of sizes. Descriptive details, which give the best evidence for association with an actual object, are disappointingly scanty, and these have their own hazards of interpretation.

Another kind of problem lies in the evaluation of our sources, both absolutely and for the immediate purpose in hand. Many of our definitions come from late authors, who wrote at a time when both the names and the objects which they designated, back in the fifth century B.C., had long since passed out of use; or, if still in use, had come to be applied to different objects in the one case, called by different names in the other. Often, the definition is transparently deduced from the context of a classical literary passage; and, in many such cases, we can do our own job of deduction with better results. It is no wonder, then, that an undigested compilation of all the data would lead to no intelligible definitions, but only to chaos.

Nevertheless, a study of this kind must start with what is given, that is, the words. Any improvement in our knowledge of their meaning must come first from an ever more careful and discriminating study of the texts in which they are found, and only after that from our examination of the actual objects, or representations, to which there may be hope of attaching the names in question. The method pursued in the present work, except when the named object has already been reasonably well identified, has been to proceed from the study of the literary and epigraphical sources to the

archaeological part of the research. Naturally, the degree of success varies from one item to the next, but it is hoped that some real gains have been made.

There are also by-products. In the pursuit of information about each separate item, it was often found that the dictionary entry in the Liddell-Scott-Jones *Lexicon* was faulty, either in the definition of the word, or in the classification of the uses of it, or in the history of its form and meaning, or in some other respect. As cases of this kind multiplied, it became evident that a service of some value would be performed if these flaws were systematically noted down, even at the risk of appearing unduly captious. Further profit, quite unexpected, derives from the light which this study of the entries in the Stelai was able to shed on some few literary passages, most of them in Aristophanes, wherein the visual significance of the words had apparently escaped the modern commentators. These observations are presented as tokens of what advantages might accrue if the terms for concrete, physical artifacts in the Greek authors were generally subjected to this combined philological-archaeological attack by more accomplished Hellenists.

The obstacles to a successful association of Greek vase-names with the corresponding physical objects have been notably lessened by one great advance in archaeology during recent years. This is the systematic exercise of a policy under which the finds of common or undecorated pottery were treated with their proper respect. The result of this policy in the excavations of the Athenian Agora is the recovery, from countless fragments, of thousands of household-ware vases, covering all the centuries of classical civilization, and representing in astonishing variety the kinds of vases which were really put into daily use. This article was, in brief, incalculably improved by the months of contact with the material in the Agora collection, which has no parallel of its kind, and of association with those scholars whose knowledge of its content is unequalled.

A final word of warning as to prices may be needed. Although I have tried to be reasonably cautious in quoting prices and in considering their implications, it should be emphasized that, as bases for comparison, most of the prices of manufactured objects which are found in the Stelai have a very limited evidential value in the present state of our knowledge. Without laboring the obvious reasons for this situation, it may be suggestive to cite a hypothetical modern parallel. Suppose that we had a price given beside the word "watch," and a clear knowledge of the usual size, shape, general appearance and purpose of such a timepiece, but knew nothing of its quality and condition, or of other prices for watches. How would we know, for instance, that the price of a new watch, in good running condition, might vary, according to quality alone, between one dollar and several thousand dollars? Other factors, such as market conditions, the trade in used watches, etc., need hardly be brought in to make the point clearer, but further rumination on this case and similar ones is recommended as a preparatory calisthenic exercise for anyone who wishes to argue about ancient prices for artifacts.

I. LARGER STORAGE VESSELS

1. PITHOS

(VI, 57, 141-144; X, 2)

Among Greek storage vases, *pithoi*¹ were the largest,² and they were no doubt moved as infrequently as possible. Often they were sunk into the ground and practically immovable. The normal procedure of sale would have been to lump them together with the house and land when an estate was sold. This seems to have been true in all three of the cases in which *pithoi* are recorded in the Stelai, for no separate price was given for them in any of these instances. In Stele X, line 2, the land, trees, house and eight pithoi were sold all together for 1,800 drachmai.³ In Stele VI, line 57, where the text is fragmentary, the land, house and pithoi sold for an unknown sum. In Stele VI, lines 141 ff., there is evidently an even more inclusive lumping of goods with real property, but the preserved details are even scantier, and no price at all appears in this part of the inscription.

The pithoi of the Stelai were certainly made of clay. Examples of pithoi in other materials are occasionally mentioned, but these are exceptional. Those found in excavations are almost universally pottery vessels, and unless there is evidence to the contrary, it is safe to assume that whenever pithoi occur they are made of clay.⁴ In Stele VI, lines 57 and 141 ff., a distinction is made between sound (*ὑγιεῖς*) and cracked (*σάθροί*) pithoi.⁵ Because of their large size and their relatively high cost (see below), pithoi would have been preserved even more carefully and mended more conscientiously than other vases, and kept in use as long as possible. In general,

¹ On *pithoi* in general, see E. Pottier, *Dictionnaire*, II, pp. 332 f., *s.v.* *Dolium*; A. Mau, *R.E.*, V, 1905, cols. 1284-86, *s.v.* *Dolium*; *Olynthus*, VIII, pp. 312-316, and the references there cited.

² At Olynthos (*Olynthus*, VIII, *loc. cit.*), as in other excavated sites, the size of the pithoi varies widely; but one of a group of larger pithoi (p. 313) had an estimated capacity of more than 270 gallons, or at least 25 amphoras. This may be taken as an average, or usual, size for pithoi, but larger ones are not uncommon.

³ This lot of pithoi was situated ἐν τῇ οἰκίᾳ, that is, actually inside the house, where they were most probably used for currently needed provisions, and not for storing produce to be sold as a crop. In the House of Good Fortune at Olynthos, a storage room (*πιθεών*) contained remains of at least five large pithoi (*Olynthus*, VIII, pp. 61, 207 f., 313-316); see also Liddell-Scott-Jones, *s.v.* *πιθών*, *πιθεών*. Where larger numbers of pithoi are mentioned, it would seem likely that they were used for storage of crops.

⁴ In Stele VI, line 141, the text is so restored, perhaps unnecessarily if this is an attribute which would have been taken for granted.

⁵ A similar formula is found in *I.G.*, XII, 5, 872: *πίθους ὑγιεῖς . . . σακνοῦς*. *Olynthus*, VIII, p. 316 describes a large, fragmentary pithos, found at Olynthos, which had been mended with at least 42 cleats. Other examples of vases which were broken and mended in antiquity are very common.

broken objects were kept and mended for further use, not simply thrown away. The frugality of the buyers who attended these sales is shown by the reference to other damaged goods, such as, *inter alia*, doors (Stele V, line 3), a small cot (V, line 9), a broken pedestal for a kneading basin (II, lines 32-34).

Covers (*ἐπιθέματα*)⁶ are expressly mentioned as accompanying the pithoi in Stele VI, line 57, while in VI, lines 141 ff. there seems to have been a separate listing of pithos-lids. *Epithemata* appear also in Stele VI, line 136, where they may again be covers of pithoi.⁷

Since the pithoi are not priced separately, since their size is also unknown,⁸ and since even their number is lost in two cases, we learn nothing from these entries about prices of pithoi. For information of this kind we must look elsewhere. A considerable number of pithoi which have been found in excavations bear graffiti on their rims, giving numbers which in most cases must be understood as indications of size. Those found in the excavations at Pergamon,⁹ for instance, have numbers in Ionic notation which seem, by reference to actual measurements of the vessels, to express units of capacity (perhaps Ptolemaic *artabai*). Two other pithoi, found in northern Greece,¹⁰ bear simple numbers which appear also to mean units of measure. But a group found in the House of Good Fortune at Olynthos¹¹ uses clearly differentiated signs for drachmai and obols,¹² and therefore must refer to prices of some kind. Robinson and Graham very convincingly advance the theory that these prices refer to the cost of the pithoi themselves. If this interpretation is correct, the smallest inscribed pithos of the group, with an estimated capacity of 25 amphoras, cost 31 drachmai 1 obol, the other prices ranging upward to 37 drachmai 1 obol, 43 drachmai 1 obol, "45 to 50 drachmai," 53 drachmai 4 obols; and, in an example found later at Olynthos,¹³ 53 drachmai 2 obols. These prices do not, in fact, seem unreasonably high for such large vases, which were proverbially difficult to make, with great risk of spoilage, and, unless produced on the spot, costly to deliver. For pithoi of smaller size, it must be

⁶ *Olynthus*, VIII, p. 312; and Pollux, X, 188.

⁷ The text is too badly mutilated to afford much confidence in a restoration, but it may just possibly contain something about [πίθοι] . . . ἐπιθέμα[τα ἔχοντες].

⁸ In Stele VI, line 57, the missing part of the line may have given the capacity of the *pithoi*, as is suggested by the restoration [πίθοι] ἐν[έα ἀμφορέων]. One of the smaller pithoi (if that is what they were called) at Olynthos had an estimated capacity of 8½ amphoras (*Olynthus*, VIII, p. 313). See further below, pp. 170-171 on *phidaknai*.

⁹ M. Fränkel, *Altertümer von Pergamon*, VIII, *Inschriften*, Berlin, 1895, pp. 500-501; A. von Szalay and E. Boehringer, *ibid.*, X, 1937, pls. 29,2 and 33, nos. 30-34, pp. 37-39.

¹⁰ M. N. Tod, *B.S.A.*, XXVIII, 1926-27, p. 148.

¹¹ *Olynthus*, VIII, pp. 313-316.

¹² This distinction in the nature of the signs is ignored by J. H. Jongkees, *Mnemosyne*, Ser. III, X, 1941-42, p. 155 note 28, who argues against interpreting any of the graffiti on pithoi as prices; and, conversely, by Robinson and Mylonas, *A.J.A.*, XLIII, 1939, p. 51 and note 2, who maintain that the Pergamene graffiti are price-inscriptions.

¹³ Robinson and Mylonas, *op. cit.*, p. 51.

presumed that the price dropped off even faster than the proportionate reduction in capacity.¹⁴

The Olynthian prices apply to the fourth century B.C., when prices were on the whole somewhat higher than Athenian prices of the fifth century. Our pithoi, had they been sold individually, might therefore have brought less in proportion to their size, even under normal conditions of sale (*i. e.*, new and in a regular market). It is, of course, impossible to estimate what sort of differential we might expect.

2. PHIDAKNE AND PHIDAKNIS

(II, 251-252; V, 26, 34; VII, 52-56, 87, 88, 90, 92)

The *phidakne*,¹⁵ like the *pithos*, was a large storage vessel, but between the two there is no clear distinction as to shape or even as to size. Etymologically, the word *φιδάκνη*, or *πιθάκνη*, is said to be a diminutive of *πίθος*,¹⁶ and it may well be that *phidakne* ordinarily meant a small-sized pithos. This is not to say, however, that every pithos was necessarily larger than every phidakne, for there may have been a considerably overlapping range of size within which either term could be used indifferently. The use of "diminutives" is flagrantly unreliable as an index to size, since the original sense is often lost through colloquial misuse.

Fortunately, our text gives exactly, though ambiguously, the size of one lot of *phidaknai*. In Stele II, lines 251-252, the entry reads (price lost): *φιδάκναι ἀχών<ι>δες ΔΔ ἀμφορέων ΗΗΔΔΔΔ*, which could be taken to mean, "twenty phidaknai, not pitch-lined, having a (total) capacity of 240 amphoras"; or, reading differently, "240 phidaknai, each having a capacity of 20 amphoras."¹⁷ The former reading seems preferable to me, because the number 240, though not impossibly large as a tally, is still somewhat formidable; because a statement of the total capacity at the end of the entry gives a slightly more natural order;¹⁸ and because, perhaps, a size of 20 amphoras might bring these vases fully into the range of *pithoi*. Even with the reading proposed here, these would still be vessels of considerable size, with an average capacity of 12 amphoras (well over 100 gallons) each.¹⁹

¹⁴ For example, if a pithos of 25-amphora capacity cost 31 drachmai 1 obol, a jar of 3-amphora capacity would not have cost "5 to 10 drachmai," as suggested in *Olynthus*, VIII, p. 316, but even less than a proportionately calculated 3 drachmai 4½ obols.

¹⁵ *Φιδάκνη*, *φιδакνίς* (Attic for *πιθάκνη*, *πιθακνίς*): Liddell-Scott-Jones, *s.v.* *πιθάκνη*; and see especially Pollux, X, 74 and 131.

¹⁶ Suidas, *s.v.* *πιθάκνη*; Hesychius, *s.vv.* *πιθάκναι*, *φιδάκνη*.

¹⁷ The latter sense is accepted by Pritchett, Part I, p. 277.

¹⁸ Compare *I.G.*, XII, 5, 572: *παρέλαβεν πίθους ὑγιεῖς ἐννέα· μέτρον τούτων ἑκατὸν ὀγδοήκοντα· σάκνους πέντε· μέτρον τούτων ἑκατόν.*

¹⁹ Their size would also be one-third greater than that given to the *pithoi* in Stele VI, line 57 by the text, as restored (cf. above, p. 169, note 8).

That the *phidakne* was a sizable vase is shown also by the use of the word in Aristophanes. Early in the Peloponnesian War, when the population of Athens was swollen by refugees,²⁰ it is said that people had to live in *phidaknai* (*Eq.*, 792). In another passage (*Plut.*, 546) a fragmentary *phidakne*, broken lengthwise, has to do service as a kneading trough (*μάκτρα*).²¹ Especially from the former passage, we must assume that a *phidakne* was a kind of vase with a potential capacity of at least several amphoras. Other occurrences of the word in literature point in the same direction.²²

On the other hand, there is further evidence in the Stelai that *pithaknai* were not ordinarily as large as *pithoi*. In the first place, the *phidaknai* were sold as separate objects,²³ not lumped together with the real property, as was the case with *pithoi*.²⁴ Hence these *phidaknai* were at most not too large to be moved with relative ease. Another clue to their size is offered by the prices, which are preserved in five entries (Stele VII, lines 52-56). The amounts realized are: 4 drachmai, 4 drachmai 3 obols, 4 drachmai 4 obols, 9 drachmai, and 11 drachmai. The average price for these five *phidaknai* is 6 drachmai 4 obols. Since these were plain pottery vessels, empty and in second-hand condition, the prices do suggest fairly large vases. But, if the price of 31 drachmai 1 obol for the Olynthian *pithos* holding 25 amphoras is taken as the basis for a very rough guess, the proportionately calculated sizes for our *phidaknai* would range between 3.2 and 8.8 amphoras. This is of course a purely illustrative figure, not to be taken at face value, for there are too many disturbing factors which impair its validity.²⁵ At least, however, they do serve to give a general idea of the size of vase which might have been called a *phidakne*: a storage jar of intermediate size between an amphora and a *pithos*, with capacities running up at least to 12 amphoras and probably more. The larger ones were no doubt entitled also to the grander name, *pithos* (cf. above).

In addition to the bare listings of *phidaknai*, the Stelai contain three amplified statements which add something to our knowledge of this kind of vase. One entry

²⁰ Cf. Thucydides, II, 52; Plutarch, *Per.*, 34.

²¹ On the kneading trough, see below, pp. 239-241.

²² E. g., Athenaeus, XI, 483 d.

²³ Clearly so in Stele VII, lines 52-56; but cf. also Stele II, line 251; V, lines 26 and 34; VII, lines 87-92, where the same appears to be true.

²⁴ See above, p. 168.

²⁵ The size of the Athenian *phidaknai* may have been considerably greater than these figures suggest, for three reasons: 1) the Olynthian *pithos* probably cost more, in its time, than a similar *new* *pithos* would have cost in Athens at the time of the Stelai; 2) the condition of the *phidaknai* and the terms of their sale must have brought the prices down in relation to their size; and 3) the cost of larger-sized vessels would rise out of proportion to the increase in capacity, because bigger vases need thicker walls, using disproportionately more material, and involving greater risk of breakage (cf. also p. 169). Unfortunately we have no means of estimating at all accurately the effect of these factors.

refers to a *φιδάκνη δεδεμένη* (VII, line 91; price lost). The adjective may simply give a hint that the vase was damaged and repaired with lead. However, a rope tied around any large jar would not only increase its strength, but would also provide convenient hand-grips for moving it manually, or a means of lashing it to a vehicle. Loopholes and lugs, obviously meant to accommodate ropes, are often provided on pithoi from the Bronze Age onwards, and ropes were commonly tied around large pottery vessels.²⁶

There is also the lot of twenty (?) *phidaknai achon(i)des*, mentioned above for their size. That *phidaknai*, like *pithoi*, were used to contain various substances is evident from the literature,²⁷ but one of their commonest uses was for the storage of wine. To serve this purpose, they would most often have been pitch-lined (the usual term is *πίπτινος*: cf. *κάδω πιπτίνω*, Stele II, line 142, and below, p. 189). The peculiarity of the present lot seems to be that they were not so treated. The word *ἄχωνις* does not occur elsewhere, but the meaning proposed by Pritchett, 'not coated with pitch,' seems best suited to the context and etymologically most probable. From this exceptional case, it might also be inferred that other *phidaknai*, at least when they were to be used as wine casks, were usually lined with pitch.²⁸

The entry *φιδάκνη στόμα* (Stele V, line 34; price lost), in the form given, suggests that a *phidakne* and a *stoma* were sold together for a single sum. But what is a *stoma*? It would be convenient, and clear, if the *stoma* could be understood here as a stopper or plug which fitted into the mouth of the *phidakne*,²⁹ but there seems to be no precedent for this use of the word, and we have seen that the lids of *pithoi* are called *epithemata*. Actually, when used in connection with vases, *stoma* seems rather to mean the mouth-opening of the vessel, never a lid or stopper of any kind.³⁰ If the *phidakne* and *stoma* were two separate objects, we should have to assume that there was one whole *phidakne* and a fragment of another, namely the topmost part. That such a fragment could be put to good use is shown by the frequency with which the upper part of a *pithos* served as a well-head.³¹ Quite possibly, too, such a fragment

²⁶ Bronze Age examples are especially clear, e. g. Evans, *P.M.* IV, p. 342, fig. 285, pp. 634 ff., figs. 622-629, p. 646, fig. 633. The relief decoration of these vases is often suggestive of rope bindings (cf. especially *ibid.*, p. 638, fig. 626).

²⁷ Cf. Liddell-Scott-Jones, *s.v.* *πιθάκνη*.

²⁸ Cf. *Olynthus*, VIII, p. 316. On pitch-lining, see also Pliny, *H.N.*, XIV, 134, *et al.*

²⁹ That the mouth of a *phidakne* might have been smaller than that of a *pithos* is suggested (for what it is worth) by Hesychius, *s.v.* *Φιδάκνη· π(ε)ιθάριον μικρόν στενόν*. Amphoras were of course regularly closed with stoppers (see V. Grace, *Hesperia*, Suppl. VIII, 1949, p. 175), but a larger opening would normally require a lid.

³⁰ Cf. Aristophanes, *Frag.* 581; Polybios, XXI, 28 (XXII, 11, 13); *Anthologia Palatina*, VI, 251.

³¹ Represented in vase-paintings: *A.J.A.*, XLIX, 1945, p. 514 and notes 23-24. For examples of well-heads found in the Agora excavations, see M. Lang, *Hesperia*, XVIII, 1949, pp. 114-127, pls. 6-8; and cf. Xenophon, *Anab.*, IV, 5, 25. The fact that the drum-shaped well-heads were

might have been “thrown in” with a whole specimen at little or no extra cost. It seems much better, however, to read *φιδάκνη<ς> στόμα*, assuming an omission of the first *sigma*,³² so that the whole entry would mean, “upper part of a phidakne.”

The form *φιδакνίς* occurs (incomplete) in only one passage (Stele V, lines 21-22; prices lost), which reads as follows:

... κριθὼν φιδакνί[δες – –]
 ἑτέρα ΔΙ ἑμίσεια.

The text is badly mutilated. It is not even certain that there was a separate price for these items, and there are other difficulties. The entry concerns a certain lot of barley, and the emphasis lies on the contents rather than the containers, but a precise interpretation is hard to find. In the first place, the distinction between *φιδάκνη* and *φιδакνίς* (or *φιδάκνιον* ?)³³ is not clear. We should expect some difference, since *φιδάκνη* appears elsewhere in the same Stele (V, lines 26 and 34), but this fact should not be pressed. Possibly a real diminutive sense is intended, *i. e.*, *small* phidaknai.

Are these phidakni(des) actual vessels, to be sold with their contents, or merely units of measure?³⁴ There is no direct proof, here or elsewhere, that either *phidakne* or *phidaknis* was a standard measure of capacity. Indeed, there is for phidakne evidence to the contrary, in the wide range of prices for which these containers were sold, which could scarcely be attributed, *in toto*, to differences of condition. Therefore, even though the barley is of chief interest here, the phidakni(des) seem to be actual vessels, and not merely units of volume.

There is trouble also in the position of the numeral ΔΙ, in relation to the form *ἑμίσεια*, which can only be nominative, singular, feminine. As it stands, the text is ungrammatical, and we must conclude that the stonecutter made an error. One solution would be to find this error in the position of numeral: transposing it with *ἑτέρα*, we should have *κριθῶν φιδакνί[δες] ΔΙ, ἑτέρα ἑμίσεια*, “eleven phidaknides of barley, and another half-full.” Or, we might preserve the present order by assuming that the error lies in *ἑμίσεια*, that the scribe meant to write *ἑμίσεια* (neut. pl., nom.), which looks and sounds much the same (the *iota* carelessly inserted, under the influence of *φιδакνίς* ?). Using this correction, and allowing space for a missing number after *φιδакνί[δες – –]*, we would then read *κριθῶν φιδакνί[δες – –], ἑτέρα ΔΙ ἑμίσει(ι)α*,

properly called *Ἰσθμια φρεάτων* (Lang, *op. cit.*, pp. 117-118) should be no hindrance to our understanding of *φιδάκνη<ς> στόμα* as a pithos-type well-head. (For examples, see Lang, pp. 114, 124-125, nos. 1-6, pl. 6).

³² So accepted by Pritchett, Part II, p. 316. For similar omissions, which are common in Attic inscriptions, see Meisterhans, *Grammatik*³, pp. 90-91, Sec. 13.

³³ Cf. Hesychius, *s.v.* *πιθάκναι καὶ πιθάκνια*· οἱ μικροὶ πίθοι καὶ σιπῖαι. But the form *φιδакνίς* is cited from the *Demiooprata* by Pollux (X, 74) and therefore seems preferable here. Either would have essentially the same meaning.

³⁴ On *phidaknis* as a possible unit of measure, see Pritchett, Part II, pp. 193 f.

“ . . . phidaknides of barley, and eleven more half-full ” (or “ half-sized containers ”?).³⁵ The latter seems, on the whole, the more satisfactory reading, but the sense is still far from clear.

II. AMPHORAS

Several of the references to amphoras use the term purely as a measure of quantity, or at most have to do with containers whose individual importance is completely subordinated to the goods which they contained, e. g., in Stele I, lines 113-116 and Stele VI, lines 60-61, 64-65. These cases are treated in another context.¹ There are, however, some instances, all in Stele II, in which the amphoras must be considered as objects in their own right. These passages are the concern here.²

1. EMPTY AMPHORAS

(II, 240)

The entry lists 21 ἀμφορῆς κενοί, ‘ empty amphoras,’ at a total price of 3 obols, or at $\frac{1}{4}$ obol each. These must have been common storage jars, to judge from their extremely low price. Their cheapness is in fact so startling as to require some comment. Yet the text is clear and complete as to both the number and the price. To assume a stonecutter’s error, such as putting 3 obols where drachmai were meant, would be a desperate measure, surely to be avoided. Several compensating factors have already been mentioned above, in the discussion of pithoi and phidaknai. To these must be added the facts that the ordinary amphora was the commonest plain vase in use and that there must have been a plethora of them constantly on hand.³ No doubt they were usually bought full of something, such as oil or wine, and usually would have been sold new only in large lots, as to farmers or exporters. One might compare today’s cardboard cartons which have no resale value, or yesterdays’ crates, fruit boxes, and gunny-sacks which (in used condition) could be had for next to nothing. Yet, even with all these allowances, the price does not seem likely for good, large vases. These may, therefore, have been much smaller than the usual “ full-sized ”

³⁵ Half-measures are, however, usually stated in a different manner, e. g., ἡμισάκιον (Stele II, lines 137-139), ἡμιαμφόριον, ἡμικοτύλιον, etc., for which the parallel form would here be ἡμιφιδάκνιον.

¹ See Pritchett, Part II, pp. 187-188, 195-196, 199-203.

² The content of this section has profited much from the acute and stimulating criticisms offered by Mr. Joseph V. Noble.

³ One brought one’s own empties to fetch wine (Aristophanes, Frag. 299: τρέχ’ ἐς τὸν οἶνον ἀμφορέα κεὸν λάβων); cf. *A.J.A.*, XLIX, 1945, p. 516. Piled up, their sheer mass was a symbol for individual nonentity (Aristophanes, *Nub.*, 1203).

amphora,⁴ perhaps in unusually poor condition. The value of these factors cannot be at all accurately weighed, but it is likely that the price was affected by more than one of them.⁵

The appearance of plain, unglazed amphoras of the fifth century B.C., even of those locally made in Athens, must have varied considerably. A common sort, which appears often in vase-paintings,⁶ is familiar enough. The main tendencies of the shape are toward a rather elongated eggy body, tapering to a point at the bottom which is sometimes knobbed, a flattened shoulder, and a distinct neck which is somewhat pinched-in, and vertical handles at the sides of the neck.⁷

In those localities which exported wine, the point of origin was sometimes identified by a stamped design, usually impressed before firing on the handle of the vase.⁸ In many cases, the shape of the jar was also distinctive, independently advertising the source of the contents. This leads us to the subject treated in the next section, the Eretrian and Chian amphoras.

2. ERETRIAN AND CHIAN AMPHORAS

(II, 18-19, 20)

In addition to the empty amphoras (line 240) and the Panathenaic amphoras (lines 21, 41-60), Stele II also contains entries listing ἀμφορῆς Ἐρετρικοί (lines 18-19) and Χῖοι (line 20). Prices are lost for the Chian amphoras, and fragmentary for the Eretrian. In the latter case, however, what remains shows that four pieces sold for at least two drachmai, or at not less than 3 obols each.⁹ This price is far above that of the empty amphoras, falling in the middle range of those for Panathenaic amphoras.¹⁰ The question of these relationships will be discussed in a later chapter, but they should be kept in mind here for their possible bearing on the identification of these vases. The price seems relatively high for empty, undecorated wine jars, but other factors make any different interpretation difficult.

One might think of decorated vases. There is, however, no indication, literary or archaeological, that either Chios or Eretria had any significant fabric of painted

⁴ No standard of capacity is implied here.

⁵ For comparisons with other prices, see Section IX in next number of this journal.

⁶ E. g. *A.R.V.*, p. 212, no. 1 (Panaitios Painter); p. 133, no. 28 (Berlin Painter); and often, especially in archaic red-figure. Not necessarily "made in Athens," but there is no suggestion that they were not.

⁷ On plain wine jars, see especially V. Grace, *Hesperia*, Suppl. VIII, 1949, pp. 175-189, with the references there given.

⁸ V. Grace, *loc. cit.*

⁹ In the price, the last sign, a drachme, is clearly identifiable. From its position, we should expect one more figure to the left of it.

¹⁰ See below, p. 178.

pottery at the time of the Stelai. For Eretria we do have the unsupported guess that a local school of vase-painting may have existed there,¹¹ but the evidence is very weak indeed, and it has to do with lekythoi, not amphoras. In short, there is only a very slight chance that these Eretrian and Chian amphoras were painted vases. If they were decorated, we have no known style to which we can relate them.

On the other hand, Chian *wine* was a famous product, relatively high-priced, and it was sold in amphoras of a distinctive shape (or series of shapes), represented on the coins of Chios. Actual vases of this local type have been identified as Chian from the presence on their shoulders of a stamp derived from the principal coin-type of Chios.¹² A lot of six Chian amphoras was found in a fifth-century well in the Athenian Agora,¹³ all of approximately uniform size (about 22 liters), suggesting a possible standard of seven choes to an amphora. If the figures scratched on these jars have been correctly read and interpreted, the price of the wine in them would have come, regularly, to one stater, or two drachmai, per chous.¹⁴ This is just three times the traditional retail price for Attic *τρικότυλος οἶνος*,¹⁵ at 4 obols per chous, a price which agrees well with the premium quality of Chian wine.

As for our *ἀμφορῆς Χῖοι*, it is an attractive hypothesis that they were Chian wine jars of this standard type, a good contemporary example (last quarter of the fifth century) of which is shown on Plate 47, a.¹⁶ By analogy with the Chian amphoras, we might suppose also that the *ἀμφορῆς Ἐρετρικοί* were plain wine jars of Eretrian type, even though no such class has yet been identified. We do not know that Eretrian wine was placed for export in amphoras of a characteristic local shape, or even that it was systematically exported at this time, but the numerous ancient references to other local wines, which do have their own peculiar kind of container, make this possibility seem likely enough. Furthermore, although we have no amphora stamps bearing any device which has been attributed to Eretria, it should be noted that the practice of adding such stamps to the jars was only beginning in the fifth century. Distinctive local *shapes* were, however, already in use, and we need not doubt seriously that Eretrian wine had its own characteristic form of container. Nor is the possibility to be ruled out that an Eretrian stamp may one day be identified, since the Chian

¹¹ Cf. J. Boardman, *B.S.A.*, XLVII, 1952, p. 47, citing E. A. Gardner, *J.H.S.*, XIV, 1894, pp. 184-185. Boardman gives no reference for his mention of "later serious attempts . . . to prove that some of the leading white-ground vase-painters of the fifth century worked in Eretria."

¹² V. Grace, *Hesperia*, III, 1934, p. 202, fig. 1, no. 1, pl. 1, no. 1; Suppl. VIII, 1949, especially p. 182; and XXII, 1953, pp. 104-105, with references there cited.

¹³ L. Talcott, *Hesperia*, IV, 1935, pp. 495-496, 514-516; M. Lang, *ibid.*, XXV, 1956, pp. 12-14, nos. 58, 62-63.

¹⁴ Cf. Lang, *loc. cit.*

¹⁵ Cf. Pritchett, Part II, p. 201. To his references, add H. Immerwahr, *T.A.P.A.*, LXXIX, 1948, pp. 184-190.

¹⁶ Agora P 18816. Not stamped, but identified and dated from the shape and fabric by Miss Grace.

stamp and a few others were already current in the fifth century.¹⁷ The association of such a stamp with Eretria, perhaps through comparison with a coin-type,¹⁸ might be hoped to furnish clues leading to the identification, by fabric and shape, of Eretrian wine jars.

If the Eretrian and Chian amphoras of Stele II were plain wine jars, distinguished from locally made, undecorated Attic amphoras only by their form, then the question of prices assumes special prominence. I had thought once that amphoras full of Eretrian and Chian wine, respectively, might be meant, assuming that some larger figure should be restored in the price at line 19. Naming the container, metaphorically, when its contents are meant is a common literary figure, especially apt in expressions referring to wine,¹⁹ and the assumption that it was present in these entries would have put the price safely beyond any further concern. A credible price could be restored, for a total of 51 drachmai would make each amphora cost something under 14 drachmai. This would seem fair enough for a choice wine.²⁰

In reality, however, this approach will not bear closer examination. The style of the language is not literary, and it is unsuited to this interpretation. Such an expression would be particularly awkward for the present passage. Under a blanket heading, *amphoras* (line 18), there are placed the three words *Eretrikoi*, *Chioi* and *Panathenaikoi* (lines 19-21). That is, the whole passage refers to various kinds of amphora, not to amphoras full of Eretrian or Chian wine, nor yet of Panathenaic oil. In all three cases, empty vases must be meant.

We know too little about the concrete situation to interpret confidently the relationships among prices for these kinds of vases, but I suspect that the condition of the object was the most important factor in determining what it would bring at auction; observe the wide range of prices for the Panathenaic amphoras, from 2.4 to 3.7 obols each,²¹ all presumably identical with respect to size and cost of manufacture. There is, inherently, no reason why a sound vase, though used, might not have been valued almost as highly as a comparable new one.²² In the necessary choice between decorated and undecorated vases, I am therefore inclined to prefer the inference that these (surely empty) Chian and Eretrian amphoras were plain wine jars. At least we

¹⁷ See especially V. Grace, *Hesperia*, Suppl. VIII, 1949, p. 182, and cf. *Hesperia*, XVIII, 1949, p. 337.

¹⁸ Some promising, though inconclusive, resemblances are noted by Miss Kathleen Rogers (now Mrs. I. Cohen) in her unpublished M.A. Thesis, *Some Correlations between Greek Coins and Amphora Stamps*, University of California, Berkeley, 1956.

¹⁹ Cf. V. Grace, *Hesperia*, Suppl. VIII, 1949, p. 181 and note 24.

²⁰ The size of the amphoras would still be unknown, but, if they were comparable to the Chian, the price would be just about the same as for Chian wine.

²¹ See further below, pp. 178-179.

²² For the suggestion that the type of vase, though plain, might have had special interest to the owner, cf. M. Lang, *Hesperia*, XXV, 1956, p. 23, on the Chian amphoras from the Agora.

can identify a Chian amphora of this sort, and can safely presume a parallel case for the Eretrian, whereas the very existence of contemporary painted vases of Eretrian or Chian manufacture remains problematic.

3. PANATHENAIC AMPHORAS

(II, 21, 41-60)

For reasons to be given below, I believe that the listings of Panathenaic amphoras in Stele II refer to regular, painted Panathenaic amphoras of the familiar sort, and *empty*. The inscription therefore offers extremely important new evidence for the study of Panathenaic amphoras.²³ In the first place, if the conclusion stated above is correct,²⁴ prices are here given for vases the size, shape and ornamentation of which can be exactly defined in terms of extant specimens of the class. Secondly, it is important and perhaps historically significant that one man possessed so many of them; at least 102 are recorded in the stele, with a lacuna following the last entry.²⁵

The main bulk of these Panathenaic amphoras was sold off in lots of ten, for what reason it is not clear, unless it was simply for convenience in keeping count of them during the auction. In those entries for which prices are preserved, the unit price ranges from 2.4 to 3.7 obols.²⁶ For the interpretation of these prices, we must bear in mind the character of the objects (if painted and inscribed, never for sale as new merchandise), their condition (the range of prices, down to about $\frac{2}{3}$ of the highest figure, suggests that some pieces were in a much worse state than others), and the nature of the sale. In the same kind of sale, plain empty amphoras, size and condition unknown, sold for only $\frac{1}{4}$ obol each,²⁷ but this amount is so strikingly low that some peculiar situation must have been present to account for it. Closer and more relevant is the minimum (but possibly exact) price of 3 obols each for Eretrian amphoras, even if these are taken to be plain, empty wine jars of Eretrian type,²⁸

²³ For recent literature on Panathenaic amphoras, see especially *A.B.V.*, pp. 403-417; *Development*, pp. 88-100, 116-118; *A.J.A.*, XLVII, 1943, pp. 441-465; Karl Peters, *Studien zu den panathenäischen Preisamphoren* (Diss., Köln, 1942), Würzburg, 1941 and Berlin, 1942. The article by L. Ziehen in *R.E.*, XVIII, 3, 1949, cols. 457-493, *s.v. Panathenaia*, has much of value but suffers from its failure to make use of recent archaeological studies (e. g., Beazley, Peters).

²⁴ It is only fair to say that, in the numerous discussions which these entries have provoked, several distinguished scholars have remained unconvinced that these were painted amphoras. The formulation of the present section owes much to their criticism and advice. Others, who accept its major thesis, have also offered very helpful suggestions.

²⁵ See below, p. 184.

²⁶ Wrongly recorded, through an unfortunate slip, as 2.6 to 3.7 obols, in the abstract of a paper on this subject which was read at the fifty-sixth meeting of the Archaeological Institute of America, *A.J.A.*, LIX, 1955, p. 169.

²⁷ Stele II, line 240; cf. above, pp. 174-175.

²⁸ Stele II, line 19; cf. above, pp. 175 ff.

whatever that may have been. It has, indeed, been suggested that such a price for a plain vase, falling in the middle range of those for the Panathenaics, is inconsistent with the belief that the latter were decorated. The argument of price, however, is so complicated by questions of condition and other variable factors that it must here be applied with great caution. The questions of relationships among prices recorded on the stelai and of these with other known prices will be considered further in a later section.²⁹ For the present, it is enough to say that the prices of the Panathenaic amphoras, so far as they tell us anything, tend rather to favor the assumption that the vases were decorated.

The meaning of the expression ἀμφορῆς Παναθηναϊκοί is what must be determined. Obviously it cannot mean amphoras, plain or decorated, full of Panathenaic oil, for their price is far too low for this.³⁰ The vases must, therefore, have been empty. That they were decorated rather than plain vases follows, I think, from the very nature of the Panathenaic prize awards. Since this question is crucial to the identification of our amphoras, it will be worth our while to review the evidence for the distribution of prize oil in painted amphoras.

There is still much that we do not know about the distribution of prizes at the Panathenaic festivals, but the accumulation of archaeological knowledge over the past few decades has given the solution to certain vital questions. On the principal one at issue here, the status of the painted amphoras, a bad start was given by the dissertation of Brauchitsch,³¹ who drew from the evidence available to him three disastrously wrong conclusions: (1) that painted Panathenaic amphoras were not awarded at all from about 495 to 378 B.C.; (2) that, when awarded, they were given only at the lesser (annual) Panathenaia, and that prizes of some other kind were awarded at the greater (penteteric) Panathenaia; and (3) that only *one* painted amphora was given for each event, and this only to the first-prize winner, all the rest of the oil having been otherwise distributed. All these ideas were very soon and very ably attacked by Norman Gardiner,³² and all have gradually lost countenance. Yet, by some oddly persistent force of human error in archaeology, one or another of them, presented in varying situations, has lived on to plague the scholarship on Panathenaic amphoras over the past forty-five years,³³ even after the valiant effort of Peters to lay

²⁹ See next number of this journal.

³⁰ On prices of oil, see Pritchett, Part II, p. 184. No price is known for exactly this period, but those recorded for the fourth century B.C. range from 12 to 36 drachmai a metretes (approximately equal to a standard Attic amphora), and the lowest price known to us from any period of Greek history is 11 drachmai a metretes. Hence it does not seem possible that amphoras priced at less than 6% of this amount could have been filled with oil, whatever its condition.

³¹ G. von Brauchitsch, *Die panathenäischen Preisamphoren*, Leipzig and Berlin, 1910.

³² E. N. Gardiner, *J.H.S.*, XXII, 1912, pp. 179-193, especially pp. 183-184 (fundamental reading for anyone who cares to examine the question seriously).

³³ E. g. L. R. Farnell on Pindar, *Nem.*, X, 35, London, 1930-32; C.W.L. Scheurleer, *Grieksche*

them all to rest.³⁴ It would be needlessly wearying to go over all the arguments here, but something needs to be said on each point, in order to insure an up-to-date basis for further discussion.

(1) The first theory is pure myth, thoroughly cancelled by the study of the vases themselves. There is no real gap in the production of Panathenaic amphoras in the fifth century B.C., hence none in their use as prizes for the Panathenaic Games.³⁵

(2) The second theory, which would allow for the awarding of Panathenaic oil only at the lesser Panathenaics, seems to die a harder death, but it is equally untenable. There is in fact no scrap of direct evidence for the giving of any athletic prizes whatever at the lesser Panathenaia, and only two obviously blundering scholia³⁶ to suggest that any prizes other than oil were ever offered for the principal athletic events at the greater Panathenaia.³⁷ The most persistent argument for the theory is drawn, by inference, from the fourth-century amphoras with the names of magistrates inscribed on them. Since there is no extant vase which certainly bears the name of an archon who held office during a Greater Panathenaic year (the third year of the Olympiad), whereas each of the other three years *is* represented, it has been argued that the vases were given annually in these other three years, *i. e.*, at the lesser Panathenaia, prizes of some other kind having been awarded at the greater Panathenaia.³⁸ But, as Mommsen long ago observed³⁹ and as most recent writers agree,⁴⁰ the name of the officer (not always the archon) on the fourth-century vases applies only to the year in which the oil was collected, and not necessarily to the year in which it was

Ceramiek, Rotterdam, 1936, pp. 59-60; G. Lippold, *Ph. W.*, 1944, pp. 175-180 (review of Peters, *op. cit.*).

³⁴ Peters, *op. cit.*, pp. 1-13.

³⁵ See especially *A.B.V.*, pp. 407-417, and *Development*, pp. 88-100; Peters, *op. cit.*, pp. 1-4. (Even in 1912, Gardiner, *loc. cit.*, had sensed that this notion was false, but had difficulty with his proof because of the then undeveloped state of stylistic knowledge concerning vase-decoration). To the same limbo has gone the once firmly held belief that Panathenaic amphoras were not produced after the fourth century B.C. In the most recent study of this subject, which catalogues fragments of 49 specimens from the Athenian Agora, G. R. Edwards reports that "we now know of the existence of possibly fifty or sixty amphorae which are to be dated in Hellenistic or later times" ("Panathenaics of Hellenistic and Roman Times," *Hesperia*, XXVI, 1957, p. 321).

³⁶ On these sources and their value, see Gardiner, *op. cit.*, pp. 183-184, and Ziehen, *op. cit.*, 475.

³⁷ The special prizes (such as money, cattle, etc.) for certain specific contests, chiefly non-athletic, are not here in question.

³⁸ Recently advocated by Lippold, *Ph. W.*, 1944, pp. 175-180, who maintains that the two inscriptions flanking Athena—the reference to the contests and the name of the official—must, since they are in parallel positions on the same vase, refer to events of the same year.

³⁹ Th. Mommsen, *Feste der Stadt Athen im Alterthum*, Leipzig, 1898, p. 82; cf. Peters, *op. cit.*, pp. 7-8.

⁴⁰ *Development*, pp. 96-97, and p. 118, note 62; Peters, *loc. cit.*; Ziehen, *op. cit.*, 475; and now Edwards, *Hesperia*, XXVI, 1957, pp. 332-335.

awarded as a prize.⁴¹ The absence of archon-names for the greater Panathenaic year, if it is not a purely accidental gap in our material, can be justified by quite a different explanation, that the olives were still ripening on the trees at the time of the festival (August).⁴² Be that as it may, the conclusion is well established that the Panathenaic amphoras full of oil were distributed as prizes at the Greater Panathenaia, and only then.

(3) Brauchitsch's third theory, though completely untenable in its extreme form, raised questions which could not be answered at once. Even the main problem, whether or not only one painted Panathenaic amphora was given in each of the events for which oil was awarded, was soon complicated. The question at once became not "one, or all?" but "one, *some*, or all?" The arguments on both sides have been concerned principally with the ratio of extant Panathenaic amphoras to the probable total number of amphoras of prize oil awarded over the whole range of time that is spanned by these vases. Gardiner thoroughly refuted the "one-amphora" theory in its strictest sense,⁴³ but still admitted the possibility that a victor might have received only a part of his oil in painted Panathenaic amphoras. Some recent statements have been similarly inclined toward caution: "more than one, but not necessarily all" is implied in their tone.⁴⁴ But the belief that the entire quantity of prize oil was distributed in painted Panathenaic amphoras is expressly stated by Peters;⁴⁵ is strongly hinted by others;⁴⁶ and from the evidence at hand, it seems by far the most acceptable conclusion.⁴⁷ The fact that the oil was systematically collected in the manner described

⁴¹ We need not worry about the condition of three-year-old oil. See Gardiner, *op. cit.*, p. 192, note 43. From current inquiry in Athens, it seems that oil is commonly stored for at least two years, because the olive trees in alternate years produce a heavy and a lighter yield; and the carrying over of oil to even a third year seemed not at all improbable to those who were questioned.

⁴² Cf. Gardiner, *op. cit.*, p. 192. Is it not possible also that the state's share of the oil crop which was due in the year of a greater Panathenaic was sold off directly to help defray (*post factum*) the expenses of the festival, including some of the prizes in events for which oil was not awarded?

⁴³ Gardiner, *op. cit.*, pp. 183-184. It is to be noted that in this paper Gardiner sharply reverses his earlier opinions; cf. his *Greek Athletic Sports and Festivals*, London, 1910, pp. 241-242. Meanwhile, evidence has accumulated to the point of reducing Brauchitsch's theory to absurdity. Cf. D. M. Robinson, *C.V.A.*, Robinson Collection, I, text, pp. 46-47, concerning pictures of the same event on two evidently contemporary amphoras, found together and presumably won by one person in one contest (*A.B.V.*, p. 410, below middle, nos. 2 and 3; Robinson Group); or, again the two from the archonship of Polyzeos, 367/66, both showing the same contest (*A.B.V.*, p. 413, bottom, nos. 1 and 2); or those of the consecutive years of Hegesios (324/323) and Kephisodotos (323/322), both surely given in the contests of 322 B.C. (*A.B.V.*, p. 415, nos. 11 and 12) and both showing the same contest.

⁴⁴ E. g., D. M. Robinson, *loc. cit.*

⁴⁵ Peters, *op. cit.*, pp. 11-13; so also by Richter and Milne, p. 3.

⁴⁶ Cf. E. N. Gardiner, *Athletics of the Ancient World*, Oxford, 1930, p. 39; *Development*, pp. 88, 94.

⁴⁷ It is of course not known, nor is it necessary to assume, that the practices of distribution

by Aristotle,⁴⁸ which agrees perfectly with the orderly pattern of storing it in *painted* amphoras as attested by the fourth-century series, argues against any whimsical or capricious distribution according to the current mood of the officials. Furthermore, the right of the winner to sell his oil tax-free⁴⁹ would lose must of its point if this Attic oil, won in the games at Athens, were not regularly distributed in easily identifiable, official prize amphoras. The fact that so many painted Panathenaic amphoras have been found in remote, non-Hellenic places, whence no eligible contestant would have been likely to have come, is proof enough that the oil was sold for export in these amphoras, not shipped off in ordinary jars.

The main stumbling block to full acceptance of this conclusion has been the small ratio of extant vases to the total which would have had to be produced. On the evidence of *I.G.*, II², 2311 (first half of fourth century B.C.), the schedule would call for a distribution of at least 700 amphoras every four years; and a considerably larger number, possibly as many as 1,300, can be presumed.⁵⁰ If this figure is carried over any lengthy period, assuming no interruption or reduction of the awards, the cumulative sum does grow rather staggering. For example, in the course of a single century, in order to distribute 1,300 amphoras at each greater Panathenaic celebration, the state would have had to call for the production of some 32,500 amphoras by the potters of Athens. In the face of the relatively tiny number that has survived, more than one observer has been moved to ask, incredulously, what has become of all those amphoras?⁵¹ Yet the argument *ex silentio* has exactly the same weakness as the old theory of a fifth-century gap in production, which had to be dropped as soon as specimens were found (or dates found for known specimens) which filled the gap. Similarly, the notion that only one painted amphora was given for each event had to be (or should have been) abandoned as soon as it was found that more than one amphora with the same subject on the reverse was produced in one year. And the belief that the prizes were officially terminated, *by decree*, before the end of the fourth century

remained constant throughout the entire history of the Panathenaic games. There were no doubt periods during which these awards were suspended or curtailed, because of war or other difficulties, and there was no doubt evolutionary change to fit historical developments. On the other hand, both the highly religious nature of the festival and the extremely conservative character of the Panathenaic amphoras imply a strong tradition which would have been broken only under stress, and then only temporarily.

⁴⁸ Aristotle, *Ath. Pol.*, 60.

⁴⁹ Cf. Peters, *op. cit.*, pp. 11-12.

⁵⁰ The figures actually extant yield a total of 727 amphoras; if 40 is restored in line 51, this total becomes 767. The minimum of 1,300 amphoras, cited by Gardiner, *J.H.S.*, XXXII, 1912, p. 190, is based on the assumption that the missing entries in columns I-II would account for the difference. Apart from the Panathenaic amphoras themselves, this is our only extant source of direct information concerning the distribution of Panathenaic prizes. And, strictly speaking, the evidence of this inscription applies only to one year.

⁵¹ E. g., Scheurleer, *op. cit.*, pp. 59-60.

has gone the same way, with the spectacular rise—within one generation—of the number of known post-fourth-century examples from zero to fifty or sixty.⁵² These cases should give warning enough against taking accidents of preservation as negative evidence in such a situation as this where the conditions are so heavily weighted against recovery. On the testimony of two other inscriptions, most of the prize amphoras were won by non-Athenians,⁵³ who came from far and wide. Furthermore, even the Athenian winners of more oil than they could conveniently use would immediately have sold off the excess, most of it probably for export.⁵⁴ The wide scattering of proveniences for Panathenaic amphoras makes it seem remarkable that even as many have survived as are extant today, and yet their ranks are steadily growing.⁵⁵

I believe, then, that the vases listed in Stele II were regular, painted Panathenaic amphoras of the familiar kind. A hoard of more than 100 Panathenaic amphoras in the possession of one person is, on any assumption, remarkable enough. Whether painted or not, they must originally have contained prize oil won at the Panathenaic games.⁵⁶ In view of the conditions described above, it seems most likely that they were won at a single Panathenaic festival by the individual whose property was here up for sale, and quite possibly in a single contest, since it is easier to assume a single victory than a number of them, whether won simultaneously or seriatim.

We may pursue this line of thought still further. If these vases were awarded for a single event, there is only one contest in which we know that so many amphoras could have been won at a single stroke: the ἀγὼν ζεύγει ἀδηφάγῳ or chariot race with full-

⁵² Cf. above, p. 180, note 35.

⁵³ In *I.G.*, II², 2313-2314 (early second century B.C.), from a total of nearly 50 extant names, only 10 are clearly identifiable as Athenians, and some of their victories were won in contests open only to Athenians.

⁵⁴ Cf. above, p. 182.

⁵⁵ E. g., with the recent addition of two specimens belonging to the last quarter of the sixth century, from the Isthmian sanctuary of Poseidon, IP 1172, 1173; cf. O. Broneer, *Hesperia*, XXVII, 1958, pp. 30-31, no. 35, pls. 14, a and 15, a. As Gardiner has emphasized, *J.H.S.*, XXXII, 1912, pp. 183 f., the maximum concentration of extant examples during any particular period yields a more significant "ratio of survival," so far as such a ratio is at all calculable, than does the grand total distributed over the entire range of years. For the period 525-500 B.C., the number of known survivors is already relatively high. The more theoretical objection, that the Kerameikos "could not have produced" so great a number of vases, ignores the factor of time as well as the great skill of ancient Athenian potters. If, for instance, the contract were let to only one factory at a time, that factory could easily have filled the highest conceivable quota by producing, on an average, one amphora a day.

⁵⁶ For a suggestion by V. Grace that plain amphoras of "Panathenaic" form were possibly used to hold "refills for Panathenaic amphoras," see *Hesperia*, XXII, 1953, p. 101, no. 147. Even if such a possibility is granted, the name "Panathenaic amphora" would not be appropriate. In our inscription, I find it hard to believe that so precise and so formal a title, which *does* fit a conspicuously distinguishable kind of vase, would also have been applied to a plain amphora which merely resembled, to a certain degree, the painted Panathenaic amphora.

grown horses, for which the first prize, on one occasion in the fourth century B.C., was 140 amphoras of oil.⁵⁷ In the Stele, the main block of entries for Panathenaic amphoras (lines 41-60) accounts for 100 vases, listed in lots of 10 each, and using two lines for each entry. It would not be necessary, for the conjecture that these amphoras may have been won in the chariot race, to suppose that the whole mass of amphoras was still intact and was listed on the Stele; but it is worth observing that this passage is followed by a lacuna of at least nine lines, into which there could have been accommodated the listing of four more batches of ten vases each.

But this last hypothesis leads to a very significant association. If, as seems likely, this part of Stele II concerns the property of Alkibiades,⁵⁸ what better candidate could we find for a first-prize winner in the main *hippikos agon*, perhaps at the Panathenaic festival of 418 B.C.,⁵⁹ than the multiple victor in the chariot races at Olympia in 416—Alkibiades, with his stable of famous race horses?⁶⁰

⁵⁷ *I.G.*, II², 2311; Dittenberger, *Syll.*³, 1055.

⁵⁸ Likely, but not provable. Stelai I and II, though better preserved than the rest, are so fragmentary that much of the property listed in them cannot readily be assigned to specific persons. One passage in Stele I, as has long been noticed, is explicitly assigned to Alkibiades by Pollux (X, 36): ἐν δὲ τοῖς Δημοπράτοις πέπραται Ἀλκιβιάδου χαμεύνη παράκολλος καὶ κλίνη ἀμφικέφαλλος (cf. Stele I, line 231, χαμεύνα παράκολλος, and line 233 κλίνη Μιλησιουργῆς ἀμφικέφα[λος]). His name also appears in the text of Stele I (lines 12-13). The property of other persons is also listed in Stele I, so that it is impossible at present to determine exactly where the listing of Alkibiades' property is resumed. Nevertheless, the text of Stele I ends in an unbroken list of items including those presumably to be identified with those cited by Pollux. In Stele II, there are also the names of several offenders, so that we cannot apply to its beginning the evidence of lines 216-217, [προσκ]εφάλαια σκύτι[να], which Meritt (*Hesperia*, V, 1936, p. 384) connects with Pollux, X, 40: ἐν τοῖς Ἀλκιβιάδου πέπραται προσκεφάλαιον σκύτινον καὶ λιγὺν καὶ ἐρεοῦν. But Stele II is intact at its beginning, in the upper left-hand corner (see Pritchett, Part I, p. 249), and its text is obviously a continuation of some preceding stele, since the list of objects begins without preamble of any sort, continuing without interruption at least through line 60 since there is hardly any possibility of a new name in the missing lines 29-31. Thus, if we knew that Stele II was a continuation from Stele I, and not from some other Stele, we should have the desired proof. Unfortunately, there is no certainty that the two Stelai are consecutive, and in fact Pritchett has urged caution on the ground that the two Stelai, though otherwise much alike, differ in that Stele I has a slight taper, whereas Stele II does not. This is not damning evidence, even against the continuity of Stele II from Stele I, but it emphasizes the hypothetical nature of our attribution to Alkibiades of Stele II, lines 1-60.

⁵⁹ On the possibility of interruptions in the Games during the Peloponnesian War, but with the likelihood that the Games *were* held in 418, cf. D. M. Robinson, *C.V.A., Robinson Collection*, I, text, p. 47. The fact that the reports of Alkibiades' triumphs make no mention of a Panathenaic victory need not disturb us, for there are hardly more than two or three direct references to Panathenaic winners in all of Greek literature.

⁶⁰ Thucydides, VI, 16; Isokrates, XVI, 14 and 17; Plutarch, *Alcib.*, 11 ff. Plutarch also states that Alkibiades was a victor in the Isthmian games, and gives an additional sidelight on the subject's vanity. He was just the sort of person who would have preserved, for display, so great a mass of empty Panathenaic amphoras. Only a man of substance with a habit of lavish hospitality and a large household of slaves to support could have afforded to keep, or have been able to use, this much oil. A man of more modest circumstances would have had to sell most of it, to say

Returning, for the moment, to the question of how so large an assemblage of these vases could have come into being, there is no finally provable answer. But the theory advanced here, that they were won at a single Panathenaic festival, probably by a single contestant and quite possibly in a single event, seems more likely than any conceivable alternative. It would be hard to think that they were family heirlooms, commemorating generations of victories, for there is no evidence to suggest the long-range hoarding of such trophies, which were, after all, only the containers for the real prize, namely the Panathenaic oil. On the contrary, the testimony of the extant Panathenaic amphoras shows that they were sold freely (still full of oil) and exported widely,⁶¹ and that they would not ordinarily have been kept in any number over any long period of time.⁶² The relatively modest prices which these vases brought at auction further indicate that their value as objects of art was not remarkably high. Their sentimental value, as trophies, would naturally be of real concern primarily to the person who had won them, or otherwise only on his account.⁶³ The thought might occur that, since these vases are here being sold, they could in turn have been acquired by purchase. But, if they were bought in one lot—say, to relieve a friend who needed cash instead of oil—then we should have to explain how the first owner acquired them, and the same set of problems would still confront us, at one step removed from the present situation. It becomes even harder to justify a piecemeal collection, made for whatever reason. Nor can these have been officially owned vases, intended for the Games of 414, for then they would still have belonged to the state.

In summary, the entries of Panathenaic amphoras in Stele II point strongly toward a series of important conclusions, some of them more firmly established than others, but all of them tenable until disproved or replaced by better ones. (1) The vases listed in the Stele are empty, decorated Panathenaics.⁶⁴ (2) Originally full of Panathenaic prize oil, they were won by the subject of this passage in Stele II. (3) They were most probably won in a single Panathenaic year. (4) They could have been won in a single Panathenaic event, the chariot race with full-grown horses. (5) The property listed in this part of Stele II may have belonged to Alkibiades, for whom a victory in this event, probably in the year 418 B.C., would be apt and credible. (6) In consonance with the foregoing statements, but in no way dependent on them, is

nothing of his inability in the first place to support a stable of prize-winning horses. For the relationship of the Panathenaic to the Olympic games, cf. *Development*, pp. 98 f.

⁶¹ On this point, see above, pp. 182, 183; also, for example, Peters, *op. cit.*, pp. 11-12.

⁶² The empty vases were dedicated in sanctuaries, as often on the Acropolis, also at the Isthmia, where the dedicatory graffiti are preserved on the vases (see p. 183, note 55), and once at Sparta.

⁶³ If they were indeed the property of Alkibiades, their salability in this auction might have been somewhat enhanced by their triple significance as souvenirs of Alkibiades, because of his great popularity, of his Panathenaic victory, and of his downfall.

⁶⁴ For examples of Panathenaic amphoras belonging approximately to this period, see *A.B.V.*, pp. 411-412; *Development*, p. 96 (Kuban Group and related pieces, end of the fifth century B.C.).

the conclusion that, as a general practice, all of the prize oil won at the Panathenaic Games was distributed in painted amphoras.

Panathenaic amphoras, with their black-figure technique of decoration, must by the late fifth century B.C. have seemed very quaint and old-fashioned and scarcely to be treasured as works of art. The commercial production of black-figured vases, even as degenerate mass-ware, had all but ceased more than half a century earlier. To our eyes, the Panathenaic vase-decoration of the end of the fifth century appears tasteless and insipid in contrast to good archaic work. Why, then, would Alkibiades (or another) have kept in one lot this large number of Panathenaic amphoras, if not as souvenirs of a glorious event and to gratify his vanity? And why would customers have been found who were willing to pay comparatively good prices for this mediocre art, if not from curiosity and a desire to commemorate an exciting historical event? Was it, rather, a case in which one or more export dealers were at hand, buying up the empties to fill them with oil and send them off to foreign markets, where oil in a decorated *souvenir d'Athènes*, even in shabby condition, might command a premium worth the cost of these vases? We can only speculate as to such details, but the main outward facts must have been fairly close to the hypotheses outlined above.

III. OTHER MEDIUM-SIZED VESSELS

1. Kados

(II, 142 and 191; III, 13; V, 5)

Before discussing the *kadoi* of the Stelai, which may be of more than one kind, we must first consider the other evidence for the nature and uses of this kind of container. Although the *κάδος*¹ was a common vessel in everyday use, often mentioned in literature, strangely little information is given about its appearance. Most frequently it occurs as a vase used to store and transport wine.² The common type of *kados*, made of clay, was employed, like the amphora, to draw the mature wine from larger containers for use or shipping; and in its general appearance and range of size it seems to have corresponded roughly to the amphora. By a natural extension of usage, the term may have been applied to any sort of amphora-like vessel.³ A clear identifi-

¹ *Κάδος*: Liddell-Scott-Jones, *s.v.* *κάδος*, *καδίον*; E. Saglio, *Dictionnaire*, I, pp. 777-778, *s.v.* *Cadus*; A. Grenier, *ibid.*, IV, 2, pp. 1357-1360, *s.v.* *Situla*; and A. Jardé, *ibid.*, IV, 1, pp. 779-781, *s.v.* *Puteus*.

² E. g., Herodotos, III, 20; Pollux, VI, 14 and X, 70-71; Athenaeus, XI, 483 d.

³ Cf. Philostratos, in Pollux, X, 71: *παρὰ τοῖς παλαιοῖς τὸν ἀμφορέα καλεῖσθαι κάδον καὶ τὸ ἡμισφύριον ἡμικάδιον*. But there is also mention of *kadoi* larger than a man (Philippides, in Athenaeus, X, 781 f) and as small as one-third of an amphora (Hedylios, in Athenaeus, XI, 473 a). A *sekoma* at Delos

cation, following these lines of inquiry, is therefore very difficult. The kados was, furthermore, properly a plain-ware vase which, unlike the amphora, seems never to have been made with painted decoration, so that the identification of extant specimens is made even harder.

A different, and more fruitful, approach is suggested by the fact that the kados was also used for drawing water from the well,⁴ and the vessels made for this purpose can be identified with confidence. They are shown very clearly in a number of well-side scenes and related situations which appear on Attic red-figure vase-paintings.⁵ The kind which most frequently occurs resembles an amphora stripped of any refinements, with its squat ovoid body, small but distinct foot, short, indistinct neck with spreading mouth, and vertical handles set on the shoulder.⁶ The circumstances make it plain, however, that these are water pots, and we may justifiably call them *kadoi*. The shapes, though consistent in other respects, vary in that some examples are fatter than others,⁷ but there is no reason to suppose that this signifies a difference of type. It is noteworthy that these examples, whether tall or fat, differ from the common varieties of *situla*⁸ not only in their shape, but also in having well developed side handles. The bail seems in some cases to have been of metal, in others to have been improvised from a length of rope. In one case, however, the shape of the vessel is roughly that of a *situla*,⁹ and in another scene an oinochoe is pressed into service.¹⁰

bears a graffito which has been read *κάδος* (*Délos*, XVIII, p. 169, pl. 60, no. 509 [Museum No. 259]). The reading seems uncertain to me, however, and to M. J. Tréheux, who kindly studied the inscription with me; and even if correct, it would not necessarily be a statement of capacity or even be related to the measures. The largest of the five measures has a capacity of only 2 liters. Another point of similarity between the kados (or kadiskos) and the amphora is that both were used as balloting urns, although for this use the former is more often mentioned (on the shape, see below, p. 188, note 16). This wide range of sizes suggests that the name was applied broadly to vases of a certain general type, without much regard for details of size or use.

⁴ See the references in *Dictionnaire*, above, note 1; but observe also that the object shown *ibid.*, I, p. 778, fig. 922 is a column-krater, not a kados. For *kadoi* used as water pots at the well, see especially Aristophanes, *Eccl.*, 1002-1004; Pollux, X, 31, and (as nautical gear) I, 94; X, 134; *κάδος ἐπὶ τῷ φρέατι*, *I.G.*, II², 1694 (bronze; Attic, fourth century B.C.); *κάδος ἑμμήρη* (bronze, with handles), *Insc. Délos*, 1417, p. 73, A I, line 146 and *B.C.H.*, LIV, 1930, pp. 97-100. At Delos, the water jar used at the well was perhaps also called a *γανλός* (*Insc. Délos*, 354, lines 60, 72, 78; but cf. Liddell-Scott-Jones, *s.v.*). Cf. also *Délos*, XVIII, pp. 93 ff., also *Délos*, VIII, 2, p. 351.

⁵ Cf. *A.J.A.*, XLIX, 1945, pp. 514-515, and the references there cited.

⁶ Examples are listed by Beazley in Caskey and Beazley, II, p. 35 on no. 81. Cf. also the kylikes, Louvre G 291 (*Dictionnaire*, IV, 1, p. 780, fig. 5892, showing a water jar with handles oddly placed. Onesimos; *A.R.V.*, p. 222, no. 51); Copenhagen, Thorvaldsen 112 (Brygos Painter; *A.R.V.*, p. 249, no. 49: komasts; water pot under handle); and London E 83 (Gardiner, *Greek Athletic Sports and Festivals*, fig. 60, a opp. p. 89. Codrus Painter; *A.R.V.*, p. 740, no. 14).

⁷ For a tall specimen, see, e.g., the kylix Brussels R 263, by the Brygos Painter (*Rev. Arch.*, 1933, I, p. 159, fig. 4; *A.R.V.*, p. 252, no. 99); squat, on the kylix Boston 95.29 by Onesimos (Caskey and Beazley, II, pl. 43, no. 81; *A.R.V.*, p. 220, no. 6).

⁸ Cf. *A.J.A.*, XLIX, 1945, pp. 514-515, note 24; Beazley, *E.V.P.*, pp. 250-253.

⁹ Madrid Inv. 11039 (*C.V.A.*, 2, III Ic, pl. 16, 3. Naples Painter; *A.R.V.*, p. 705, no. 15).

It is possible that any vessel used for such a purpose might have been called a *kados*; but, on the evidence of the literature, that which looks most like an amphora has the best right to the name.

These are all sturdy, sizable pots, and the sharp edges of lip and foot heighten the impression that they must be metal vases.¹¹ Metal *kadoi* for use as water pots are mentioned fairly often,¹² and we can readily suppose that a bronze water pot might in the long run have proved to be a better investment than a succession of clay ones.

The shape of this vessel shown in use in the vase-paintings is strikingly well matched by a prolific series of household-ware pottery vases, recovered (chiefly from wells) in the Agora Excavations. Their form, which is very distinctive, is so close to that of the metal pots shown in the vase-paintings that we must assume it to be a version in clay of the same shape (compare Pl. 47, b with Pl. 47, d),¹³ that is, a pottery *kados*. The size of these clay water pots is not altogether uniform, and they appear to be considerably smaller than those shown in the vase-paintings; if made too large, they would get broken so much the sooner.¹⁴

This shape has, in the Athenian Agora, an interesting if somewhat puzzling history. Its beginnings go back at least to the seventh century B.C.; examples are plentiful throughout the sixth and down to the middle of the fifth century.¹⁵ Then it vanishes from sight for more than a century and a half, to be represented in the Hellenistic period by a rather smaller vase of similar shape, but lacking side-handles and provided with a pottery basket handle.¹⁶ Although the Agora is rich in household pottery,

Similar: *C.V.A.*, Ensérune, pl. 5. Compare also the "bell-pail situlae" represented on the pelike in Berkeley, *A.J.A.*, XLIX, 1945, p. 509, figs. 1-2, and that on a column-krater now in Havana (Lagunillas Collection), *Charites*, in honor of E. Langlotz, Bonn, 1957, pl. 26, 1, attributed by Beazley to the Painter of Munich 2335.

¹⁰ Shown in the well-scene on the fragmentary kylix, *Dictionnaire*, IV, 1, p. 781, fig. 5895.

¹¹ *A.J.A.*, XLIX, 1945, p. 514, note 23; Beazley in Caskey and Beazley, II, p. 35.

¹² See above, note 4. Bronze *kadoi* also in *I.G.*, II², 1672, line 236; XI, 2, 161, B, line 24 and C, lines 89-90; and implied elsewhere. Compare the bronze "amphora," *Mon. Ant.*, XVII, p. 451, fig. 321.

¹³ Plate 47, b: Boston 95. 29 (from Caskey and Beazley, pl. 43, no. 81). Plate 47, d: Agora P 24666, from a well deposit of the early fifth century B.C. H. 0.296 m.; max. diam. 0.235 m. Fat ovoid body, flaring mouth with thickened rim, small round handles placed vertically on shoulder, thumb depression at lower attachments; ring foot slightly flaring. Micaceous red clay with grits. Found with numerous other specimens of the same type.

¹⁴ The specimen figured here, when filled almost to the brim, has a capacity of 6.9 liters, or a little more than 2 choes (not quite one-fifth of the standard Attic amphora).

¹⁵ Cf. Boulter, *Hesperia*, XXII, 1953, pp. 97-98 on no. 125 (pl. 37), with a brief history of the type. Further examples, found in 1955, serve to fill in the sixth-to-fifth century series. Shown ready for use, over a well-head, *Hesperia*, XXI, 1952, pl. 21, c.

¹⁶ E. g., Agora P 25261; H. A. Thompson, *Hesperia*, XXV, 1956, p. 54, pl. 14, a. Early Roman context, but identical in type with many Hellenistic examples. (The form of this Hellenistic type of water pot is remarkably close to that of the balloting urn shown on a [lost] terracotta relief from Smyrna; J. E. Harrison, *Mythology and Monuments*, London and New York, 1890, p. 423, fig. 35.

the lack of water pots in later fifth and fourth-century contexts could be accidental. On the other hand, it might rather be ascribed to a more widespread ownership of bronze objects, as a result of greater affluence. As will be seen, this possibility must be kept in mind in our attempt to identify the kinds of kados that are listed in the Stelai.

What, then, of the big kadoi, as tall as a man?¹⁷ And what of the *κάδοι εἰς τοὺς ἀγρούς*, which, in Aristophanes,¹⁸ are said to have brought as much as three drachmai each? If this is not merely some joke, now incomprehensible to us, the vases in question should have been very large indeed, approaching the size of the cheapest phidakne in the Stelai (VII, line 56) which sold for 4 drachmai. For this kind of vase, we can only suggest that, by extension of the term, larger vases having the same general shape, especially when used for storing wine, may have been called kadoi. One kind of pithos, found in the Agora in sixth and early fifth-century contexts, has a profile much like that of the water pots, except for its lack of handles (Pl. 47, c).¹⁹ The tops of similar vases were used as well-heads.²⁰ A pithos of this kind, as opposed to the flat-rimmed type,²¹ has a fairly good resemblance to the water pot kados, and it may not be unreasonable to think that it too may at times have been called a kados. This proposal cannot be pressed insistently, for one would expect *pithos* or *pithakne* to be applied to such vases. Perhaps there was a heavy-duty jar of intermediate size (and possibly provided with handles) which was commonly called a kados, as in Aristophanes.

Kadoi are listed at four places in the Stelai. Because of the complications outlined above, they are hard to identify very specifically. Prices, which might have helped, are preserved in two entries (II, line 191; III, line 13), but in both cases the termination (and hence the unit price) is lost. The two *κάδοι πιττίνω* of Stele II, line 142 (no price given) can only have been pottery wine jars, lined with pitch as was frequently true of such vessels,²² but their probable size cannot be estimated with any confidence. In the other three cases, even the material is in doubt.

In Stele V, line 5 (price lost), we may be encouraged to think that a water pot

The profile is quite similar, even to the somewhat angular bulge. All that is missing is the basket handle, which would only be a nuisance on a balloting urn. Cf. above, p. 187, note 3).

¹⁷ Cf. above, p. 186, note 3.

¹⁸ *Pax*, 1202.

¹⁹ Agora P 19737. H. 0.805 m.; top diam. 0.389 m. Mended from many pieces; part of the shoulder and rim at one side missing; many small chips. Ovoid body with a low flat base; flaring rim, flattened on top and grooved on its outer edge. Coarse pinkish buff clay with grits, unglazed; the surface somewhat flaked. Sixth century B.C.

²⁰ See above, pp. 172-173, on *φιδάκνη<ς> στόμα*; and cf. M. Lang, *Hesperia*, XVIII, 1949, p. 125, pl. 6, nos. 5, 6.

²¹ E. g., Lang, *op. cit.*, p. 125, pl. 6, nos. 3, 4.

²² See above, p. 172, on *φιδάκναι ἀχών<ι>δες*. There is also mention of *κάδοι πίττινοι* in Aristophanes, Frag. 269 (in Pollux, X, 185), and in *I.G.*, II², 1648, line 27.

is intended, for immediately above this entry there is listed a pulley (τροχιλεία, V, line 4), an object frequently used at the well-side.²³ This kados could, perhaps, have been either of bronze or of terracotta, but bronze may be more likely because of the singular number.

The other two cases where prices are preserved offer thorny problems. In II, line 191, an unknown number of κάδ[οι] was sold for 5 drachmai 1 obol, and, in III, line 13, an unknown number of κάδ[οι] for 8 drachmai 3 obols. The word, though restored, in each case seems probable. The number, lost in each case, is crucial. If singular in either case, metal vases would be probable, for these prices seem too high for pottery kadoi, even big ones. Such prices would not be wholly out of scale for bronze vessels of modest size.²⁴ In that event, water pots might again be thought possible. But is the number singular? In one case (II, line 191) the entry is followed by a listing of κρ[ατήρες] (see below, pp. 198-199), priced so low that they can only have been of clay; similarly, in the other (III, line 13) the next entry lists στ[άμνοι ?] at 1 drachme 2 obols (see below, p. 195), an unbelievably low price for metal. The evidence of these juxtapositions is not compelling, but it must give us pause. On the whole, it seems easier to think that these last two cases represent batches of pottery kadoi, the number, size, purpose, and unit prices of which must remain undetermined.

2. STAMNOS

(I, 117-124; II, 117-118; III, 14; V, 45-79)

The *stamnos* is another kind of vase which, like the *kados*, has strong affinities with the amphora. Again, however, there is evidence that the term may have been applied rather loosely to more than one specific type of vessel. The word *stamnos*²⁵ occurs fairly often in ancient sources, but there is disagreement as to the form of

²³ See especially Pollux, X, 31, where κάδος and τροχάλια (*sic*) are likewise juxtaposed, in a list of things needed to draw water: cf. Pollux, I, 94 (nautical gear), and see Hesychios, *s.v.* ὑπάντλ(ε)ια· χαλκᾶ ἀγγεῖα, κάδοι. For representations of pulleys in use at the well, see *A.J.A.*, XLIX, 1945, pp. 514-515, note 24. On *trochileia*, see Pritchett, Part II, pp. 304 f. To his discussion of prices, add *I.G.*, XI, 2, 161, A, lines 98-99: τροχιλείας εἰς παλαίστραν· τ.

²⁴ Cf. the *chalkion thermanterion* of Stele I, line 96 (below, pp. 218-219) which sold for 25 drachmai 2 obols, or about 3 to 5 times the prices given here. A kados is priced at some figure between 16 and 19 drachmai in a third-century Attic inscription (*I.G.*, II², 1695, line 4. The other entries include psykters at 7 to 11 drachmai; dinoi, 8 to 13 drachmai; oinochoai, 10 drachmai 3 obols and 11 drachmai. All presumably were of bronze).

²⁵ Στάμνος: Liddell-Scott-Jones, *s.v.* στάμνος· σταμνίον, σταμνάριον, κατασταμνίζω, also σταμνίσκος (not in *Lexicon*, but cf. Pollux, VII, 162 and *Insc. Délos*, 372, B, lines 24-26, 29, 31); Stephanus, *Thes.*, *s.v.*; Furtwängler in *F.-R.*, I, p. 83; E. Pottier, *Dictionnaire*, IV, 2, pp. 1456, 1457, *s.v.* *Stamnos*; H. Nachod, *R.E.*, II, A, 2, 1929, cols. 2140-2141, *s.v.* *Stamnos*; Richter and Milne, pp. xxiii, 8-9.

the vase so named. The type which we commonly call a "stamnos" is of course distinctive and familiar,²⁶ but there is no positive evidence in favor of this identification,²⁷ and students of Greek vase-shapes are probably right to reject it, insisting that such use of the term is purely conventional.²⁸

On the other hand, no wholly satisfactory definition of a *stamnos* has yet been offered, surely because of that imprecise usage which confused the ancient lexicographers. Pottier thought that the "stamnos" could be one form of *stamnos*, but that the word was applied to a wide variety of shapes; Nachod seems to follow Pottier.²⁹ This proposal, however, gives the term too much latitude, and relies on evidence of dubious value. For example, the ancient sources which identify the *stamnos* with the *ἀμῖς*³⁰ or with a variety of other forms³¹ prove only that their authors did not know the shape at first hand.

A much better foundation underlies the belief of Richter and Milne,³² that the term *stamnos* "was another name for a regular large amphora," if certain adjustments are made in order to account for discrepancies to be noted below. In fact, it is very difficult to find, in the ancient sources which mention *stamnoi*, any case which could not apply to some kind of "amphora," as we loosely use this latter word in modern times.³³ That *stamnoi* were used as wine jars is frequently attested,³⁴ and in

²⁶ See especially Richter and Milne, *loc. cit.*; Beazley, *C.V.A.*, Oxford I, pl. 28, 1, p. 23; E. Langlotz, *Frühgriechische Bildhauerschulen*, Nuremberg, 1927, pp. 18 ff.; also the forthcoming book by Miss Barbara Philippaki, *The Attic Stamnos* (Oxford University Press).

²⁷ Most strongly against it, the fact that the *stamnos* was often used for storing and transporting wine (cf. above, note 25), whereas the "stamnos" shape, with its wide mouth-opening and lack of a real neck, would have been poorly suited to those purposes. In this connection, Furtwängler (*loc. cit.*) aptly observes that the "stamnos" of modern terminology is better placed among the kraters, or mixing vessels.

²⁸ See especially Richter and Milne, *loc. cit.* Miss Philippaki (*op. cit.*, Appendix) will also deal with this matter.

²⁹ Pottier, Nachod, *loc. cit.*, above, note 25.

³⁰ E.g., Sextus, *Adv. Grammat.*, 234, p. 265; Hesychius, *s.v.* ἀμῖς. Cf. Phrynichos, *Epit.*, XVIII, 400, where those who so identify it are called *amatheis*. The source of the error seems to be in Aristophanes, *Plut.*, 545, which, however, clearly describes a makeshift situation.

³¹ E.g., Hesychius, *s.v.* σταμνίον· ὑδρία, κάλπη, κάλαθος.

³² *Loc. cit.*

³³ The question of what is properly to be called an *amphoreus* is too complicated for profitable analysis here.

³⁴ Cf. Richter and Milne, *loc. cit.*, and the references there cited. Note also that Aristophanes not only mentions a stamnos of Chian wine (Frag. 531, in Pollux, X, 72) but also speaks of Thasian *amphoreidia* (*Eccl.*, 1119; compare the Θάσιον οἶνον σταμνίον of *Lys.*, 196, 199). In all of these passages, it is natural to think of the wine as coming in the characteristic container of its point of origin (cf. above, p. 176). Also, in [Demosthenes], *In Lacritum*, XXXV, 32-33, the *στάμνοι* are mentioned again as *κεράμια*. The word *κεράμιον*, though originally generic, came to mean wine jar specifically, and, as modified implicitly or expressly with an indication of its local make, even to signify a vessel of specific theoretical capacity. The various kinds are no doubt to be identified in actual wine jars of one or another standard measure, distinguishable by their shapes

these situations we can hardly deny them the usual (generic) form of a wine jar. For most of their other uses, to store oil,³⁵ olives,³⁶ vinegar,³⁷ and other "wet" substances, the same kind of vase would have served.

On the evidence of the Stelai, however, *στάμνος* and *ἀμφορεύς* were not, at that time, exactly synonymous. In Stele I, lines 113-124, both *stamnos* and *amphoreus* occur, evidently as actual containers (observe that, wherever endings are preserved, the singular number is used throughout the passage). In two cases they are containers for the same substances: for wine, there is *amphoreus* in line 114, *stamnos* in lines 117-121; for vinegar, there is *amphoreus* in lines 113, 115, 116, *stamnos* in line 122. This close juxtaposition of the terms leaves little probability that these *stamnoi* and *amphores* could be vases of one kind. Similarly, in Stele II, lines 117-118, the quantities of vinegar and olives are surely in real vases, *stamnoi* like those in Stele I. In Stele V, lines 45-79, the long series of entries listing *stamnoi* in batches of five, adding up to a possible total of some 170 pieces, must refer to plain storage vases of the same kind. Their sheer numbers, overwhelming to us and to the stonemason alike, can only mean that this type of vase (whatever it may have been) must have been in very common use. Some particular kind of "amphora" may be meant, but there must also be a distinction.

The *stamnoi* which were used on Delos as money jars³⁸ should also be something other than ordinary wine jars. From a single instance, of 279 B.C.,³⁹ in which bronze coins happen to have been kept in a bronze hydria and a bronze *stamnos*, there seems to have developed a regular system of accounting which made use of (pottery)⁴⁰ *stamnoi* to hold large sums of money⁴¹ in safe-keeping, and to keep apart the various revenues which accrued from different sources. In the end, each jar was ticketed to show the amount and the source of the money in it. Widely varying amounts were

and/or by having stamped on them a coin type or an ethnic name (*knidion*, *thasion*, etc.). Cf. Photius, *s.v.* Σταμνία· τὰ Θάσια κεράμια. Οἱ δὲ καὶ τὰ Χῖα καὶ τὰ Μενδαῖα, evidently derived mostly from Aristophanes (see above), but perhaps of some independent value. Hermippos (in Athenaeus I, 29 e) praises the aroma of a wine as it rises from the opened mouth of the *stamnos*, a description which eminently suits an amphora-like wine jar.

³⁵ *I.G.*, XI, 2, 161, B, line 123, of bronze; the adjective is used descriptively: *στάμνος ἐλαιηρός*. Cf. Stele I, lines 123-124, and see below.

³⁶ Stele II, line 118; cf. Pritchett, Part II, pp. 183 f.

³⁷ Stele I, line 122; II, line 117.

³⁸ Richter and Milne, *loc. cit.*

³⁹ *B.C.H.*, XIV, 1890, p. 411, line 5; *I.G.*, XI, 2, 161, B, line 100.

⁴⁰ Cf. *I.G.*, XI, 2, 281, A, lines 43, 76.

⁴¹ See especially *Insc. Délos*, 399, A, *passim*, and Durrbach *ad loc.*, p. 63. Mentioned often thereafter, e. g. in Nos. 405, 408, 441-443, 453, 455, 460-461. The storage of money in jars was in itself a much older practice. Cf. Jacobsthal, *A.J.A.*, XLVII, 1943, p. 308, and the references there cited. Of special interest for our period, the Athenian tribute stele of 426/5 B.C. (*I.G.*, I², 65; Meritt, *Documents of Athenian Tribute*, p. 4, fig. 1), with its relief sculpture of money-bags and money-jars (hydriai) piled together.

deposited in the individual stamnoi, from as little as 40 drachmai to almost 2 talents.⁴² Evidently the jars were ordinarily kept in a strong-box (κιβωτός), which could be opened only by order of the prytaneis.⁴³ Although in such a situation pointed amphoras could have been made to serve, and although large amphoras usually have a mouth-opening big enough to reach into, one would prefer these repositories (which were bought for the purpose)⁴⁴ to be more comfortably shaped, perhaps with a shorter and smaller body,⁴⁵ a neck-opening of fair width and perhaps even a stable foot.

On the basis of the etymology (στάμνος < ἵστημι),⁴⁶ the inference that the *stamnos* was a vase with a distinct foot on which it could stand might be a valid explanation of the origin of the word, might even be applicable to the shape in certain instances; but we cannot believe that every stamnos was so constructed. We have seen that this notion would do very well for the money jars, perhaps less well for the wine jars. Furthermore, even when footed, the stamnos would still not be distinct from the amphora. Among decorated amphoras, for the table and for show, the kinds with a foot to stand on are far commoner than the pointed ones, and the footed ones have clear and persistent parallels in the plainer fabrics (e. g., Pl. 47, e).⁴⁷ If we were to propose that the word *stamnos* may originally have meant simply "the kind of amphora which will stand unsupported," and that this distinction in the course of time became blurred, and finally lost, we should still have to account for the very real distinction which must be present in Stelai I, II and V. Likewise, it would leave unexplained why, if the distinction was lost, the word *stamnos* continued to be used.

Metrological considerations may contain a clue to the distinction which we seek. It seems at least possible that the real difference between the stamnoi and the amphoras of Stele I was one of size, the stamnoi being smaller versions of basically the same shape. Even if the term was used for a measure in fifth-century Athens, the evidence is insufficient to yield any knowledge of its value.⁴⁸ A *sekoma* recently found in Thasos, however, gives for a (Thasian) stamnos a capacity one-half that of the (contemporary Thasian) half-amphora. This is valid evidence, as Pritchett is careful to say, only for its time and place,⁴⁹ but at least it appears to suggest that stamnoi were,

⁴² *Insc. Délos*, 399, A, lines 33, 26. One large sum of money was spread evenly among several stamnoi, one talent to a jar; *ibid.*, 442, A, lines 3-6 (income from Tenos). Apparently it was later found more convenient to keep the smallest amounts in smaller vases, e. g., κοτύλαι (Durrbach, *op. cit.*, p. 63; cf. Nos. 453, A, line 13; 455, A, line 11; 460, line 11; 461, A^a, lines 41-44).

⁴³ Durrbach, *loc. cit.*; cf. No. 399, A, line 31.

⁴⁴ Cf. below, p. 195, notes 61 and 62.

⁴⁵ By calculation, it appears that a 4-chous jar would easily accommodate two talents of minted silver, even after allowing a generous 50% for air space around the coins.

⁴⁶ Cf. Nachod, *loc. cit.*; Boisacq, *Dictionnaire*⁴, s.v. στάμνος.

⁴⁷ Agora P 5173; L. Talcott, *Hesperia*, V, 1936, p. 344, fig. 10.

⁴⁸ Cf. Pritchett, Part II, p. 196. I take the statement of Moeris, p. 44 (ἀμφορέα· τὸν δίωτον στάμνον, Ἀττικῶς· στάμνον, Ἑλληνικῶς), to be not metrological, but morphological, for what it is worth.

⁴⁹ Pritchett, *loc. cit.*

normally, smaller than amphoras. Wine jars used for shipping come in a wide variety of sizes, even when the capacity is "standard," and fractional containers were also shipped.⁵⁰ Without seeking too fine or too precise a line of division or any great consistency of practice, might we not think, from the sum of the evidence presented above, that the *stamnos* could be a smaller-sized vase resembling the amphora and, like the amphora, footed or not according to need?⁵¹ Since its use as a standard of capacity was sporadic, even rare, we should not have to look for any uniformity in this respect (consider the case of standards, generally), nor even to hope for any clear differentiation between *στάμνος* and *σταμνίον*. In fact, if we were to take literally the statements of Moeris⁵² and Photius,⁵³ that *stamnos* was the common Greek word for the type of vase which the Athenians called an amphora, and that *stamnia* (here hardly to be distinguished from *stamnoi*) were Thasian wine jars, and also, "as some say," Chian and Mendeian, we might have some clue to the reason for Aristophanes' affectionate use of diminutives for the Thasian and Chian containers. Even if we set aside the possibility of fractional measures, and think only of the full-sized jars, the standard Attic measure of an *ἀμφορεύς* (around 39 liters) was well above known measures for the full-sized jars (*κεράμια*, or whatever) of most other wine-producing centers. One Thasian wine jar, for instance, was found to hold slightly under 21 liters,⁵⁴ and a group of fifth-century Chian jars had an average capacity of approximately 22 liters.⁵⁵ Mendeian wine jars, found in the Athenian Agora, have measurements of capacity ranging from 24 to 32 liters (using barley, which gives a somewhat lower figure than liquids),⁵⁶ bigger than the first two, and of somewhat varying capacity, but all appreciably smaller than an Attic *amphoreus*. And we still have the "fractionals" to fall back on, for special meanings of diminutives. A good illustration of what is possible in this respect appears in the small group of late archaic wine jars from the Agora (fabric unknown), of the type shown in Plate 47, f,⁵⁷ not quite twelve inches high. Suited either for travel or for table, this

⁵⁰ Cf. V. Grace, *Hesperia*, Suppl. VIII, 1949, p. 180.

⁵¹ "Footed" is, of course, a relative term. A good many big wine jars used for shipping will stand, though precariously, on their relatively small feet; smaller jars of similar type will stand quite firmly on a foot of the same size.

⁵² Above, note 48.

⁵³ Photius, *s.v.* *σταμνία* (above, note 34).

⁵⁴ Cf. V. Grace, *Hesperia*, Suppl. VIII, 1949, pl. 19, 6, p. 189, no. 6.

⁵⁵ V. Grace, *Hesperia*, III, 1934, p. 296.

⁵⁶ This information comes from a record made by Miss Lang.

⁵⁷ Agora P 8858. H. 0.302 m.; max. diam. 0.206 m. Fragments missing (restored in plaster), but shape complete. Conical body with very flat shoulder, distinct, slightly concave neck, flaring mouth; conical foot. Handles rising vertically from shoulder, recurving to join neck below lip. Fine moulding around neck between handles and lip. Purplish clay with white grits; creamy slip. Similar, Agora P 8859 and P 13803 (fragmentary). All mentioned in *Hesperia*, Suppl. V, 1941, p. 140. Compared for shape, *A.J.A.*, XXXIX, 1935, p. 241, fig. 42, from Olynthos.

type has a close companion with a handle-stamp,⁵⁸ implying the use of such midgets for commercial purposes. Filled with a suitably fine wine, these little jars might easily provoke terms of endearment—*σταμνία*, *ἀμφορείδια*, or what you will.

We are still some way from finding a precise and inclusive definition of a stamnos, but we should not press this demand too hard. It is very doubtful whether so exact an understanding of the word ever existed in antiquity. There are also some loose ends. If the *κεράμια* which corresponded in purpose to Athenian *ἀμφορῆς* were called *στάμνοι* by the Athenians, then why do we have the Chian and Eretrian *amphoras* of Stele II?⁵⁹ Is there really a difference between *στάμνος* and *σταμνίον*, or are they both, in a sense, diminutives? What is the formal relationship between the bronze stamnoi of the Delian inscriptions⁶⁰ and the pottery vases of the same name? We cannot answer these questions directly, other than by saying that a variety of types of stamnos must have existed (as would be natural) and that ancient nomenclature, with respect to this as to other vase-shapes, could not have been very exact.

As to prices, the Stelai give no help at all. In Stele III, line 14, a *στ[άμνος]* or some *στ[άμνοι]* may, if the word has been correctly restored, have brought 1 drachme 2 obols; but the number is unknown, and even the word is not quite certain. In the Delian temple accounts (third century B.C.), we find entries which record purchases of stamnoi, presumably of clay because of their prices: 3 obols in one case,⁶¹ not more than 3 to 3½ obols each in two others.⁶²

3. SIPYE

(II, 2, 6, 17; V, 13)

The *sipyē*⁶³ is a container which seems to have been used mainly for the storage of barley meal⁶⁴ and other uncooked cereals. The word, which appears in the Stelai

⁵⁸ Agora SS 6618; *Hesperia*, Suppl. V, 1941, p. 140, fig. 66, no. 28 (handle and neck pictured at left, upside down; stamp at right).

⁵⁹ Cf. above, pp. 175-178.

⁶⁰ Especially those in *I.G.*, XI, 2, 161, B, lines 122-123. Note that the descriptive terms vary: *μέγας*, *Βοιωτιακός*, *ἐλαιηρός*.

⁶¹ *I.G.*, XI, 2, 161, A, line 189.

⁶² *I.G.*, XI, 2, 287, A, lines 76, 43. Plural, but number not stated.

⁶³ *Σιπύη*: Liddell-Scott-Jones, *s.v.*, Stephanus, *Thes.*, *s.v.*

⁶⁴ As in Aristophanes, *Plut.*, 806, ἡ μὲν σιπύη μεστή 'στι λευκῶν ἀλφίτων; and probably in *Eq.*, 1296. The point in the latter passage is sometimes missed, namely, that the glutton Kleonymos, having eaten all the food in sight, is now attacking the raw provisions—οὐκ ἂν ἐξελθεῖν ἀπὸ τῆς σιπύης—and must even be begged not to eat the table. Cf. also Galen, XIX, 138, Gloss: *σιπυίδα· πυξίδα . . . καὶ κεραμεοῦν τι σκεῦος, εἰς ὃ ἄλφιστα ἐμβάλλεται*. The *sipyē* is also loosely defined as a *σιτηρὸν ἀγγεῖον* (Hesychius, Harpokration, Photius). There is, further, some indication that, at least in later times, it was a sort of bread box (*ἀρτοθήκη*: see Suidas, Hesychius, *s.vv.* *σιπύη*, *πυξίδια*; Scholion to Aristo-

in its regular Attic form *σιπύη*,⁶⁵ occurs rarely outside of the lexicographers;⁶⁶ the only extant fifth-century passages in which it appears are Pherekrates (Frag. 142) and the two in Aristophanes (*Eq.*, 1296; *Plut.*, 806). This dearth of material in context, once again, makes it hard to formulate any clear idea of the object.

In the Stelai, the word *σιπύη* occurs four times.⁶⁷ In Stele V, line 13 (price lost), the context reveals nothing, but the three listings in Stele II stand near *κάρδοποι* (kneading basins; on which, see below, pp. 239-241), an association which at least suggests that the sipyai had some use in connection with cereals. In II, line 6, one sipye was sold for 5 obols; in line 17, two sipya⁶⁸ brought 1 (?) drachme 1 obol, that is (if the restoration is correct), 3½ obols each.⁶⁹

What sort of container, used for holding meal, would be best suited to the price-range found here, 3½ to 5 obols? A pottery vase is either specified or strongly implied in most of the ancient sources,⁷⁰ so that the hint of a wooden box which appears occasionally is probably—for our fifth-century context—better ignored. To judge from prices already observed,⁷¹ these sipyai must have been quite large, since one can hardly think here of fine ware. On the other hand, such a vessel would have needed a lid, carefully fitted to keep out bugs, dust and moisture, and this demand might tend to reduce somewhat our notion of an appropriate size. Furthermore, it is notoriously true that vessels of a common type can and do vary widely in their capacity. We might, in this case, think that the size of a sipye may well have varied according to the specific purpose; for example, that larger ones were used to collect the meal as it was ground (i. e., “industrially”), smaller ones (though again of varying capacity according to need) to keep a supply of meal at hand in the kitchen. If we could suppose that the sipyai of Stele II were for industrial rather than domestic use, as the near-by kardopoi might encourage us to think, we should then have some justification

phanes, *Plut.*, 806; and cf. Kallimachos, Frag. 454). In some passages, the contents are not clearly identified (e.g., *Anthologia Palatina*, VI, 288, line 10; 300, line 2, and 302, line 2), but Pollux, X, 131, suggests raw meal.

⁶⁵ The commonest alternative form, *σιπύα*, though allegedly quoted from earlier sources (Aristophanes, Eupolis, Lysias), is actually found only in word-lists (Hesychius, Harpokration, *et al.*) and in Pollux (X, 162), and it may be false (see below, note 68). Other forms (cf. Liddell-Scott-Jones, *s.vv.*) are: *σπύη*, *σπύδνος*, *σπυρίς*, *σιφνίς*, *σίφνον*, *ίπυα*. Cf. also *σιπύηθεν*, *εὐσίπνος*, *ὀλιγησίπνος*.

⁶⁶ See above, notes 63 and 64. Add Alkiphron, *Epist.*, III, 14 and Hesychius, below, note 76.

⁶⁷ It is very improbable that *σιπύαι* are to be inferred from the *ἑτεροί* of Stele II, line 3. See below, pp. 247-248, on *Triptēr*.

⁶⁸ Can this dual form in the Stelai have been, through a misreading by Pollux or another, the origin of the allegedly singular *σιπύα* (above, note 65)? Cf. however, Harpokration, *s.v.* *σιπύα*. . . ἐστὶ δὲ πολλάκις παρὰ τοῖς ἀρχαίοις κωμικοῖς.

⁶⁹ In view of the extant, and legible, price in line 6, this restoration seems far more likely than a mere two obols, or, going above the preferred figure, 5 drachmai 1 obol.

⁷⁰ Cf. also note 64, especially Galen, *loc. cit.*

⁷¹ For phidaknai, above, p. 171; for amphoras, above, pp. 174-178.

for the otherwise rather surprisingly high prices, which run slightly above even those for the decorated Panathenaic amphoras.

The literary sources give no clear notion of the appearance of a sipye, and its form remains to be determined. One would think it to be something like the jar which is represented on a red-figured pelike in Berkeley.⁷² This vase-painting shows two satyrs engaged in mixing some kind of meal with water and wine in a large basin; on the shelf behind them is a "large, lidded crock,"⁷³ much smaller than an amphora, to be sure, but still of respectable size. This scene appears most probably to represent the manufacture of *maza*, the essential dry ingredient of which is barley meal (*alphita*). From these indications, the thought occurs that the jar on the shelf could be a sipye, of the small or "domestic" size. It has been proposed, however, that this picture illustrates the common lidded "casserole" of the Agora excavations, to which it does have a fairly close resemblance.⁷⁴ Nevertheless, the crock on the Berkeley pelike does tell us, in general, what sort of vase we should be looking for. It should be a wide, relatively squat jar, with a reasonably broad bottom to prevent easy tipping, a broad mouth-opening to facilitate reaching or dipping into it, and a raised lip with an inset, well-fitting lid.

Among the kitchenware pots found in the Agora excavations, there is one kind (surely *not* to be identified with the vase shown on the pelike) which offers itself as a candidate for tentative identification with the *sipyē*. It flourished, too, during the latter part of the fifth century. One example, shown in Plate 48, a,⁷⁵ may serve to introduce the type. Besides having all of the characteristics assumed to be necessary for a *sipyē*, it has also a shape which, like the krater form that it resembles, could easily be made as large as might be desired. If the size shown here was for domestic use, we might still believe that the *sipyai* listed in the Stelai were, in view of price and context (above, p. 196), considerably larger vases of the same general kind.⁷⁶ It would be rash to insist on a specific identification, but this line of investigation may have put us on the right track.

⁷² Berkeley, UCMA 8/4583, by the Geras Painter: *A.J.A.*, XLIX, 1945, pp. 508-518, figs. 1-4; Beazley, *Paralipomena*, pp. 144-145.

⁷³ *A.J.A.*, XLIX, 1945, p. 509, figs. 1, 3.

⁷⁴ See C. Boulter, *Hesperia*, XXII, 1953, pp. 94-95, pl. 36, no. 112. Such "casseroles" were, however, cooking ware vessels for which the name *lopas* seems not inappropriate (see below, p. 210, note 76); with regard to Boulter's identification, I am still bothered by the absence of handles from the pictured vase.

⁷⁵ Agora P 4864. Restorations, but the shape fully preserved. H. 0.22 m.; max. diam. 0.284 m. Squat, bulging body with sharply incurving shoulder; distinct, steeply flaring lip with ledge inside to receive lid; vertical loop handles pressed close to rim, low ring foot. Coarse, yellow clay covered inside with a thin brown glaze, much flaked. Around outside, at height of handles, a band of similar glaze. Later fifth-century context. There are other examples which are taller and bigger, but more fragmentary (e. g., Agora P 11787, P 11788).

⁷⁶ Cf. Hesychius, *s.v.* *πιθάναι καὶ πιθάνια*: *οἱ μικροὶ πίθοι καὶ σιπύαι*, a definition which obviously concerns big vases.

4. KRATER

(II, 192)

Kraters are mentioned only once in the Stelai. The entry is very fragmentary, only the first two letters (κρ[ατῆρες]) being preserved. Since, however, the last two preceding entries refer to common vase shapes, hydriai and kad[oi], the restoration has a good claim to acceptance. The price, too, is mutilated: more than two, but not more than four, drachmai for an unknown number of pieces. This price, which is far too low for bronze, certainly calls for clay vases here, but neither the number nor the unit price can be established, nor can it be determined whether the ware was plain or decorated.

The *krater*⁷⁷ is commonest among the kinds of vessels used for mixing and serving wine. That the name is correctly applied in modern archaeological practice is shown not only by the obvious suitability of the vessels now so named for the uses indicated by the ancient references to kraters, and by the frequency with which vases of the shape in question are shown appropriately in use, but also by the graffiti on some of the actual vases.⁷⁸ Of the principal types of krater which were produced in fifth-century Athens, the column-krater had already fallen out of favor by the time of our inscription.⁷⁹ Two other shapes, the volute-krater and the calyx-krater, though

⁷⁷ Κρατήρ: Liddell-Scott-Jones, *s.v.*; Stephanus, *Thes.*, *s.v.*; Pottier, *Dictionnaire*, I, 2, pp. 1552-1556, *s.v. Crater*; Anger, *R.E.*, XV, 2, 1932, cols. 2030-2040, *s.v. Mischkrug*; Richter and Milne, pp. xx, 6-8.

⁷⁸ For example, on the group of five bell-kraters discussed, for their price graffiti, in *Univ. Calif. Publ. Class. Arch.*, I, 8, 1941, p. 189. It is a fair assumption (despite Anger's doubts, *op. cit.*, col. 2031) that the word κρατήρες in these graffiti refers to the bell-kraters (and others like them) on which the inscriptions occur. On κρατήρες Κορινθιοργεῖς for column-kraters, see below, note 79. I take this opportunity to correct an error (*op. cit.*, p. 197, note 111) concerning the fabric of these bell-kraters. All five of them were, as I should have known, already recognized to be Attic. On Louvre G 503, once thought to be Italiote, cf. Beazley, *B.S.R.*, XI, 1929, p. 27 and note 4; *A.R.V.*, p. 804, line 8 (Kadmos Painter).

⁷⁹ It is not quite fair to say, of *all* the varieties of krater (Richter and Milne, *loc. cit.*; cf. Anger, *loc. cit.*), that "their ancient names have not been identified." It has been established that the column-krater was called in antiquity a κρατήρ Κορίνθιος or κρατήρ Κορινθιοργής (A. Rumpf, *Chalkidische Vasen*, Berlin, 1927, pp. 45, 123; cf. H. R. W. Smith, *Univ. Calif. Publ. Class. Arch.*, I, 3, 1932, p. 110 note 60), an identification which is reinforced by Beazley's discussion of several pertinent graffiti on column-kraters, *A.J.A.*, XLV, 1941, p. 597. Add to these examples the graffito on a r.-f. column-krater in Bowdoin College (No. 13.8, from Gela; reportedly assigned by Beazley to the Group of Polygnotos: A, Oidipous and Sphinx; B, Man and Woman): under its foot, retrograde, Κορι(ν)θι(ου)ργεῖς ΠΙΙ 'Αχενάτω, and a short undeciphered graffito perhaps having to do with the price. I know of no match for "Achenatos" (?), which seems to be the name of the consignee, who was presumably not a Greek. One might possibly compare 'Αχένης, gen. 'Αχένους (Preisigke, *Namenbuch*, col. 68), but there is no clear connection. The column-krater Princeton 29.203 (assigned by Beazley to the Agrigento Painter) has the graffiti KOP, ME, and a monogram for ΑΠ, the first two perhaps standing for Κορ(ινθιο)ργεῖς and Με(γάλοι).

still produced, were in the main limited to fine show-pieces. The reigning favorite at this time was in fact the latest to be born, the bell-krater, which had first appeared toward the end of the archaic period⁸⁰ and had become increasingly popular in the course of the century. If compelled to guess (for here we can only guess), we might conjecture that our entry refers to bell-kraters. The examples of bell-kraters bearing price-graffiti⁸¹ are not far from the time of our inscription; they were decorated by the Kadmos Painter,⁸² the Pothos Painter⁸³ and the Dinos Painter.⁸⁴ The prices recorded on them (kraters at 4 to 4½ obols each) would, if applied to the entry in Stele II, line 192, suggest for decorated vases, in view of the possible range in price (2 to 4 drachmai), a lot of some 3 to 6 pieces.

We must ask again whether plain vases of some kind may not be intended. In fact, however, no plain-ware bell-kraters have appeared in the Agora excavations, and it seems likely that this distinctive shape was restricted to finer vases. In everyday use, the functions of the krater appear to have been fulfilled by simpler shapes, most notably the common lidless mixing bowl (usually called a "semi-glazed krater" in the Agora excavation reports), a shape which may with some justification be called a *lekane* (see below, pp. 204-205). If this identification is correct, and if vases of that shape were not called kraters, this differentiation may add some slight weight to the possibility that the vases in this entry were black or decorated bell-kraters.

5. LEBES

(I, 91, 92; VI, 145)

The word *lebes* appears three times in the Stelai. In Stele I, lines 91-92, the text is fragmentary: [λέβ]ες each time. The prices are completely lost. The restoration is conjectural, but not improbable in view of the context (bronze vessels and other bronze objects). The generally high prices preserved elsewhere in this vicinity suggest that these lebetes (if the readings are correctly restored) were also of bronze. The fact that each (leb)es was listed separately also points in this direction. In the third instance, in Stele VI, line 145, the word is complete, but no price is given.

The form of the lebes,⁸⁵ as a roughly hemispherical bowl often provided with a

⁸⁰ On the fifth-century history of the bell-krater and of the "lugged krater," see H. R. W. Smith, *C.V.A.*, San Francisco, I, text, pp. 44-45. For the possibility that bell-kraters were called κρατήρες Μιλησιουργεῖς, cf. Mingazzini, *Röm. Mitt.*, XLVI, 1931, pp. 150-152, figs. 1-2 (graffito).

⁸¹ Cf. above, note 78.

⁸² *A.R.V.*, p. 804, nos. 8, 9 (Hackl, nos. 596, 595). On the former, see above, note 78.

⁸³ *A.R.V.*, p. 803, nos. 20, 21 (Hackl, nos. 597, 598).

⁸⁴ *A.R.V.*, p. 791, no. 28.

⁸⁵ Λέβης: Liddell-Scott-Jones, *s.v.*; Stephanus, *Thes.*, *s.v.*; A. de Ridder, *Dictionnaire*, III, 2, pp. 1000-1002, *s.v. Lébès*; C. Robert, *R.E.*, V, col. 655, *s.v. Dinos*; Anger, *R.E.*, XV, 2, cols. 2033 ff., *s.v. Mischkrug*; Richter and Milne, pp. xxi, 9-10.

tripod or other stand, is attested directly by a labeled representation on a black-figure vase fragment from the Athenian Acropolis,⁸⁶ which shows the bowl on a tripod stand. As Richter and Milne have stated,⁸⁷ the shape occurs in both metal and clay, the former kind having been used mainly for boiling liquids over a fire⁸⁸ but also for other purposes, and the latter chiefly for mixing wine.

The affinity of the lebes with the krater is obvious, and there are indications that the two terms were at times used interchangeably.⁸⁹ Good examples of bronze lebetes are the huge early specimen from Gordion, now in Istanbul, the bowl of which is nearly three feet across;⁹⁰ the well known inscribed prize lebes from Argos;⁹¹ and those in the Metropolitan Museum of Art in New York.⁹² Pottery specimens, some of which clearly imitate metallic prototypes, are common from the early archaic period onward.⁹³

On the modern use of the term *dinos* for this shape, see Richter and Milne, p. 10.

6. HYDRIA

(II, 190)

In this line, a price of 14 drachmai is entered for an unknown number of hydriai. Neither the unit price nor the material can be determined. Fourteen drachmai might have bought a single bronze hydria, but the modest prices stated in the same passage for kadoi and kraters (II, lines 190-191; on these, see above, pp. 190, 198) make it seem more likely that here a batch of pottery vases is meant.

The form and uses of the hydria⁹⁴ are well established by the ancient evidence.⁹⁵ It is the familiar three-handled water jar, the history of which reaches back into the

⁸⁶ Richter and Milne, p. 10.

⁸⁷ *Ibid.*

⁸⁸ Add to the passages cited by Richter and Milne, *loc. cit.*, the reference in *I.G.*, II², 1425, line 404, to λέβητες ἔμπυροι.

⁸⁹ Lebetes sometimes had handles; cf. *I.G.*, II², 1425, line 396, ὅτα λέβητος; *Insc. Délos*, 1400, B^b, col. I, lines 14-15, ὅτα ἔχοντα δύο. Two lebetes, in the Delian inscription, weighed 14 and 15 minas each.

⁹⁰ P. Devambez, *Grands bronzes du Musée de Stamboul*, Paris, 1937, pp. 7-8, pl. 1, with lid and tripod stand.

⁹¹ A. H. Smith, *J.H.S.*, XLVI, 1926, pp. 253 ff., pl. 14.

⁹² Cf. Weinberg, *Hesperia*, XXIII, 1954, pl. 31, c and d.

⁹³ Weinberg, *op. cit.*, pp. 131-133, pl. 31.

⁹⁴ Ὑδρία: Liddell-Scott-Jones, *s.v.* ὕδρια, κάλπυς; Richter and Milne, pp. xix-xx, 11-12.

⁹⁵ See especially Richter and Milne, *loc. cit.*; E. Fölzer, *Die Hydria*, Leipzig, 1906, pp. 1-4. Pottier, *Dictionnaire*, III, 1, pp. 319-321, *s.v.* Hydria, doubts unduly the correctness of modern usage with respect to this word. Note that the word (or parts of it) may be found in graffiti on certain specimens of the shape; cf. *Univ. Calif. Publ. Class. Arch.*, I, 8, 1941, p. 188 and p. 197, note 114; also written beside the hydria shown on the François Vase, F.-R., pl. 12.

Bronze Age.⁹⁶ Two principal types are found in decorated Attic pottery of the sixth and fifth centuries: the common black-figure kind with flat shoulder,⁹⁷ and the later, round-shouldered "kalpis" of red-figure.⁹⁸ Of these, the latter was of course prevalent at the time of our inscription. It is clear that the Athenians of that period made no distinction between *kalpis* and *hydria*, and that the vessel of "kalpis" shape was normally called by them a *hydria*.⁹⁹

If our *hydriai* were decorated pottery vases, we could assume for them the normal late fifth-century shape (Pl. 48, b).¹⁰⁰ If they were household ware, however, they would have had the old-fashioned, more nearly globular form (Pl. 48, c)¹⁰¹ which persists in Agora deposits, with very gradual changes,¹⁰² at least from the early sixth to the very end of the fifth century B.C.

Lacking knowledge of their number, we cannot know which kind of *hydria* is meant in this entry, or anything about their size, but the foregoing notes may help to illustrate what the choice would mean, if choice were open to us.

On prices of painted *hydriai*, see Section IX in the next number of this journal.

⁹⁶ Fölzer, *op. cit.*, pp. 27-30; Frankenstein, *R.E.*, IX, 2, 1916, cols. 2516-2520, *s.v.* *Hydria*. See also W. Kraiker and K. Kübler, *Ausgrabungen im Kerameikos*, I, Berlin, 1939, p. 122, with the references there cited; and V. R. d'A. Desborough, *Protogeometric Pottery*, Oxford, 1952, esp. pp. 43-45, pl. 14.

⁹⁷ On the still earlier "globular" type in Attic black-figure, the shape of which persists in the household ware of later times, see H. R. W. Smith, "The Hearst Hydria," *Univ. Calif. Publ. Class. Arch.*, I, 10, 1944, pp. 241-242.

⁹⁸ On the applicability of the word *kalpis* to this shape, see Fölzer, *op. cit.*, pp. 1-4, and Richter and Milne, *loc. cit.*

⁹⁹ The evidence is given in Richter and Milne, p. 12. Fölzer (*op. cit.*, p. 4) also points out that the *hydriai* of the Panathenaic frieze on the Parthenon are of this "kalpis" shape, whereas the temple inventories speak only of *hydriai*.

¹⁰⁰ Agora P 6053. H. 0.285 m.; max. body diam. 0.20 m. Mended from many pieces; one side handle, and several body fragments, missing. Three women. The style is compared by Beazley with that of the Kleophon Painter (*A.R.V.*, p. 788, below middle, no. 2).

¹⁰¹ Agora P 874. H. 0.315 m.; max. diam. 0.255 m. Complete except for parts of vertical handle and one side handle (restored). Coarse reddish clay, micaceous; remains of fine reddish slip. Fat ovoid body, spreading foot, short neck with rolled-out lip. Latest fifth-century context.

¹⁰² Development is perhaps observable in the elongation of the body, the heightening of the foot, and the increase in the overhang of the lip.

IV. VARIOUS SMALLER VASES

1. ΛΕΚΟΣ

(II, 116)

Within a short series of entries concerning supplies of farm produce,¹ there is a mutilated word of about eight letters ending in *νι*, then *λέκος*. This latter word does not occur elsewhere in the Stelai, and individual prices were not stated for the items in this passage. From the context, however, it seems likely that the missing word was a genitive plural (e.g. *ἀλφίτων*) which named the contents of the *λέκος*; hence, that the contents were of greater interest to the buyer than was the container.

The word *λέκος*² is rare. It is found only here, in Pollux³ whose quotation of it from the Stelai may refer to this passage, in Hipponax (sixth century B.C.),⁴ in Phoenix (third century B.C.)⁵ and in the lexicographers Hesychius⁶ and Photius.⁷ There are also attested the diminutive forms *λεκίς*,⁸ *λεκίσκος*,⁹ and *λεκίσκιον*.¹⁰ But the place of *λέκος* appears to have been usurped mainly by the derivatives *λεκάνη*¹¹—by far the most commonly used word of this whole group—and the other forms which are in turn derived from it: *λεκανίς*, *λεκανίσκη* or *λεκανίσκος*, *λεκάνιον*, *λεκανίδιον*, *λακάνη* (late), and *λεκάριον* (late?).¹² Apart from whatever diminutive force the derivatives may have had, all the words of this family appear to have been roughly synonymous. Distinctions of meaning among them are hard to establish, particularly as regards the relationship of *λέκος* to the others.

All of these vessels have the form of a broad, shallow bowl: *κοίλη καὶ περιφερής*,¹³

¹ Ten medimnoi of something (the word is lost; possibly *πυρῶν*); three stamnoi of vinegar; four stamnoi of olives.

² *Λέκος*: Liddell-Scott-Jones, *s.v.* *λέκος*, *λεκάνη*, etc.; Stephanus, *Thes.*, *s.v.* *λέκος*, *λεκάνη*, etc.; Boisacq, *Dictionnaire*⁴, *s.v.* *λέκος*; Richter and Milne, pp. xxi, 23-24, *s.v.* *Lekanis*, and the references there cited.

³ Pollux, X, 87.

⁴ Hipponax (Frag. 58 Bergk) in Pollux, X, 87 *λέκος πυροῦ*.

⁵ Phoenix, in Athenaeus, VII, 358 (J. U. Powell, *Collectanea Alexandrina*, Oxford, 1925, p. 231, no. 2, line 2): *λέκος πυρῶν*.

⁶ Hesychius, *s.v.* *λέκος*: *λεκίσκιον*, *λεκάριον*, *τρύβλιον*· οἱ δὲ *λεκάνιον*.

⁷ Photius, *s.v.* *λεκάνη*· *παρώνυμος τοῦ λέκου*, κτλ.

⁸ Epicharmos (fifth century B.C.), in Pollux, X, 87; Iamblichos, *Vit. Pyth.*, XXVI, 119.

⁹ Hippokrates, in Pollux, X, 87.

¹⁰ Hippokrates, *Acut.* (sp.) 63,69.

¹¹ Cf. Photius, *s.v.* (above note 7).

¹² Cf. above, note 6.

¹³ Pollux, VI, 110.

πλατύ,¹⁴ ἐκπέταλον,¹⁵ and in one case the definition explicitly mentions handles.¹⁶ The size must have varied widely, but full-sized specimens were probably fairly large. When used as a κότταβος-bowl, one of them would hold several smaller vases.¹⁷ In an inscription of Eleusis (fourth century B.C.), eight lekanai, for use as hods (?) and perhaps of terracotta, are priced at 2 drachmai altogether or at 1½ obols each, a cost which in plain ware would call for an object of considerable size.¹⁸

The uses of the λέκος and its companions are varied, but suited to the shape.¹⁹ Though mainly intended to hold foodstuffs, especially for service at the table, they also, at least on occasion, were used to contain shoe-blackening, to hold kottabos-boats,²⁰ as washbasins or footbaths, to vomit into, as hods, to wash kylikes in,²¹ for medical purposes,²² and as containers for ladies' trinkets and cosmetics.²³ The material, according to the intended use, was most commonly pottery²⁴ or bronze,²⁵ but Pollux speaks of wooden specimens,²⁶ and examples made of silver²⁷ and of gold²⁸ are known as articles of luxury.

Among the extant types of decorated pottery, there are two which answer especially well to these requirements. Though similar in most other respects, they differ essentially in that one kind is regularly lidless, the other always designed to have a lid. From the literary evidence, it seems probable that their names were different, the lidless and the lidded varieties having been called, respectively, *lekane* and *lekanis*.²⁹ The latter is recognized, in fine ware, in the familiar wide flat bowl with broad foot;

¹⁴ Suidas, s.v. λεκάνη.

¹⁵ Hesychius; Suidas.

¹⁶ Photius, s.v. λεκάνιον. In this passage, λεκάνιον and λεκανίς are both described as having handles. Handles are commonly present on vases of this type, but they were probably not a determining feature for nomenclature, since the words of this group were often used in an extended or more generalized sense. Synonyms and implied equivalents for the λέκος-words, though admittedly cited very freely and not necessarily aptly, cover an amazingly wide range: ἐμβάφιον, κάναστρον, λέβης, λοπάς, πατέλλα, πίναξ, ποδανιπήρ, σκάφη are only a few of those given by the lexicographers.

¹⁷ Pollux, VI, 110.

¹⁸ I.G., II², 1672, line 184.

¹⁹ In general, cf. Richter and Milne, *loc. cit.*, and the references there cited.

²⁰ Pollux, VI, 110.

²¹ C.I.G., II, 3071, line 8 (Teos).

²² Pollux, X, 149; I.G., IV², 1,122, line 57.

²³ Cf. Richter and Milne, *loc. cit.*

²⁴ Aristophanes, Frag. 366; Pollux, X, 122; Hesychius; Photius; and implied elsewhere.

²⁵ Implied in Pollux, VI, 110 and X, 122; probable, from the context, in I.G., II², 1694, line 3; and implied elsewhere.

²⁶ Pollux, X, 78.

²⁷ Lucian, *Am.*, 39; Athenaeus, V, 197 b.

²⁸ Athenaeus, *loc. cit.*

²⁹ For the arguments, see Richter and Milne, p. 23, with the references there cited, especially Deubner, *Jahrb.*, XIV, 1900, p. 152. The two words have often been used without distinction as to meaning, but the differentiation is rather widely accepted and observed.

horizontal handles, often ribbon-shaped and flanked by spur-like projections; and a distinct vertical rim with offset ledge to accommodate the lid. The lid is usually flattish or spreading-conical, with vertical lip, and a knob-handle often consisting of a cylindrical shaft capped by a disk. This well known type is encountered throughout the Greek world of archaic and classical times, in a wide range of sizes.⁸⁰ The other name, *lekane*, is reserved for vases of similar type which were not made to take lids.⁸¹

The literary sources appear, in the main, to support this distinction, even though it is likely enough that the ancient Greeks did not always adhere closely to it.⁸² The problem is further complicated by the many derivative words with which we have to deal.

In its context, our *lekos* can scarcely have been a vase of very fine quality, but in order to keep its contents safely, it should have had a lid. *Lekos* is the parent word to all the others, and it would be hard to insist on linking it exclusively with one or the other of the principal derivatives. We must ask, however, in our case, whether there is any plainer Attic vase of the period which corresponds to the fine-ware *lekanis*, as defined above. It happens that, for the late fifth century, there are excellent household ware candidates for both names, *lekane* and *lekanis*, found in abundance in the Agora excavations and persistent enough to deserve specific identification. For the *lekane*, we have the ordinary plain mixing bowls of which hundreds have been found.⁸³ If any household pot deserves that name, it is a most likely candidate.⁸⁴ The *lekanis*,

⁸⁰ Small pieces: *C.V.A.*, Oxford, I, pl. 48, 19 (max. dim. 0.122 m.); *Hesperia*, XX, 1951, p. 220, pl. 13, no. 6 (max. dim. 0.121 m.). Large pieces: Würzburg 442 (Langlotz, *Würzburg*, pl. 119), Attic b.-f. (max. dim. 0.408 m.); Würzburg 869 (Langlotz, pl. 244), Apulian r.-f. (max. dim. 0.490 m.).

⁸¹ Cf., for example, A. D. Ure, *Metropolitan Museum Studies*, IV, 1932, p. 18.

⁸² As possible exceptions, cf. Pollux, X, 84, where *lekanis* is cited, with *lekanion* and *lekaniske*, among vases for serving food; VI, 85, equated with *patella*; VI, 110, bowl for kottabos-boats, equated with *chalkion* and *skaphe* (contrast Athenaeus, XV, 667 d-f, where the kottabos-bowl is called a *lekane*); and X, 49, listed among a doctor's requirements (contrast *I.G.*, IV², 1, 122, line 57, where *lekane* is so used). On the other hand, these definitions are all functional rather than descriptive. A *lekanis* without its lid could fulfill any of the purposes of a *lekane*, but the converse would not necessarily follow; and these cases have to do with the use of a *lekanis* where a *lekane* would be expected, not the other way round.

⁸³ E. g., Agora P 21929 to P 21935. C. Boulter, *Hesperia*, XXII, 1953, pp. 88-89, pl. 32, nos. 85-91: "semi-glazed kraters," with discussion, under no. 91, of the shape, its frequency of occurrence, and representations of it in vase-paintings. It is to be understood, of course, that almost any open, bowl-shaped vessel might have been called a *lekane*. This is only one of various types to which the name might be applied.

⁸⁴ Miss Talcott writes: "It is always an open two-handled bowl and it never has a lid. The shape is more or less fixed as early as the second quarter of the sixth century, and although it undergoes some development it meets with no real change until some time in the fourth century, when the rim finally flattens out. So far as we know, there was no other common standard all-purpose basin in classical times, though there are heavier, larger tubs, such as washtubs and bath-

which requires a lid and is therefore better associated with our *lekos*, is also well represented among the types of household pottery found in the Agora. The most suitable type, which occurs abundantly in contexts of the late fifth century, is the "semi-glazed lidded bowl" which, as Corbett has already suggested, may be a "humbler version of the *lekanis*."³⁵ It agrees closely enough with the standard black-glazed *lekanis* to make it seem likely that this less expensive kind was called by the same or a similar name. The resemblances are striking, in the rather squat bowl with broad ring foot and horizontal side-handles (sometimes ribbon-like, but not provided with spurs). The lid is of a different, simpler kind,³⁶ and the flange on the bowl is inset, but these peculiarities are not important enough to imply a difference of names. The range of sizes extends from smallish pieces (diam. *ca.* 0.165 m.) to fairly large ones (diam. *ca.* 0.25 m.) and it seems probable that even bigger ones were made.³⁷

It is easy to believe that the *lekos* of Stele II was a vase of the sort described above, that is, a version of the lidded *lekanis* designed for everyday use. Such a vessel would have served very well to keep cereals or legumes safely covered and handy for use.

Our illustrations (Pl. 48, d-f)³⁸ serve to sum up the argument, based on the available evidence, both as to usage of nomenclature and as to the prevalence of these types, in the late fifth century. The shapes illustrated indicate how readily one of the names (or forms of the same name) might do duty for another, and how easily, even in antiquity, confusion of terms might occur. They enable us, however, to make three practical distinctions. Plate 48, d is the familiar fine-ware *lekanis*, always lidded, usually glazed, often decorated, essentially a woman's toilet box but useful in other ways as well. Plate 48, f is our candidate for the *lekos* (which might, especially in small sizes, also have been called a *lekanis*), likewise lidded, but a much humbler vase, well adapted to storing modest amounts of cereals or other supplies, or to serving food at the table. Plate 48, e is the lidless, all-purpose "mixing bowl," which may reasonably be named a *lekane*.³⁹

tubs, which are found occasionally. A good indication of the omnipresence of this *lekane* is the fact that out of the 1225 ostraka found in the Agora excavations, over 20% are from pots of this shape."

³⁵ P. E. Corbett, *Hesperia*, XVIII, 1949, p. 304. His late-fifth-century examples include Agora P 11004-11006 (p. 334, nos. 87-89, pl. 96, no. 87). Fragments of many similar vases were found in the same context.

³⁶ For the lids, see Corbett, *op. cit.*, p. 334, nos. 90-91 (Agora P 11007-P 11008), pl. 97, no. 90.

³⁷ See above, note 30, on the fine-ware *lekanides*.

³⁸ Pl. 48, d: Agora P 10370; f: P 11004 and lid P 11007; e: P 21931.

³⁹ A similar shape may be intended on the kylix Oxford 1911.617, by the Pan Painter (Beazley, *C.V.A.*, 1, III I, pl. 7, 3, p. 6; *A.R.V.*, p. 368, no. 88).

2. POTERION

(VI, 172-173)

This entry is found in two fragmentary words which have been restored *ποτή-
[ριον] τορ[εντόν]*; both the price and the number are lost.⁴⁰ There is nothing in the context to support this restoration, but *poterion*, or something like it, seems probable by default of any other acceptable candidate. *Toreuton*, taken as its adjective, has a good claim to consideration.⁴¹ The expression goes easily with *poterion*, for, in general, the association of metal relief-work with drinking cups is common in ancient sources.⁴²

Etymologically, the word *ποτήριον*,⁴³ like its synonym *ἔκπωμα*,⁴⁴ could be applied to any kind of drinking vessel. Usage also indicates that its meaning was normally generic. In Pollux,⁴⁵ in Athenaeus,⁴⁶ and elsewhere, *poterion* and *ekpoma* include comprehensively a wide variety of more specifically named cups.⁴⁷ Similarly, in the Delian temple inventories the general heading *poteria* covers broadly, indeed loosely, all sorts of drinking cups, the individual names of which often coincide with those found in literary sources.⁴⁸ Under *poteria*, the principal sub-headings are *κύλικες*, *φιάλαι*, and *σκάφια*. More narrowly specific terms, which occur in great profusion, are joined adjectivally to one or another of these, or to *poterion* itself. There is also some over-

⁴⁰ In the present discussion, the number will be treated, conventionally, as singular.

⁴¹ *Τορύνη*, a spoon or ladle, or *τόρος*, drill (cf. Liddell-Scott-Jones, *s.v.*) would be possible, assuming a new entry, but neither seems very attractive.

⁴² A *ποτήριον τορευτόν* is mentioned by Menander (in Athenaeus, XI, 781 e; Frag. 977 Kock); a *σκύφος τορευτός* in an inscription of Miletos (Dittenberger, *O.G.I.*, 214, line 54), and we may compare the *pocula caelata* which Pliny (*H.N.*, XXXIV, 47) attributes to the hand of Kalamis. These and other ancient references to relief-work are collected and interpreted in an important article by M. J. Milne, "The Use of *ΤΟΠΕΥΩ* and Related Words," *A.J.A.*, XLV, 1941, pp. 390-398; for cups, see especially pp. 392-393 and notes 21a, 22, and 29. For examples of fifth-century table service of silver and gold, with relief decoration, see Richter, *A.J.A.*, XLV, 1941, pp. 363-389 (especially p. 381), LIV, 1950, pp. 357-370.

⁴³ *Ποτήριον*: Liddell-Scott-Jones, *s.v.* *ποτήριον*, *ποτήρ*, *ποτηρίδιον*; Stephanus, *Thes.*, *s.v.* *ποτήριον*; Athenaeus, XI, *passim*; Pollux, VI, 95-100; *I.G.*, XI, 2, 287, B, lines 129-142 and remarks thereto by Homolle, *B.C.H.*, VI, 1882, pp. 111-116. Cf. also Richter and Milne, pp. xx, xxii-xxiii, 24-27, *s.v.* *kylix*, *kantharos*, *skyphos*, etc. The word *ποτήρ*, with the same meaning as *ποτήριον*, is rarely found (cf. Euripides, *Alc.* 236 and *Cyc.* 151) and can have had little currency.

⁴⁴ *Ἐκπωμα*: Liddell-Scott-Jones, *s.v.*; Stephanus, *Thes.*, *s.v.*; Pollux and Athenaeus, *loc. cit.*

⁴⁵ Pollux, VI, 95-100.

⁴⁶ Athenaeus, XI, *passim*.

⁴⁷ For example, Herodotos uses the word *poterion* for the drinking cups of barbarians, such as those of the Egyptians (II, 37, 1) and Persians (VII, 190), even for the gruesome skull-cups of the Scythians (IV, 65). Similar cases of vague, inclusive or generalized usage could easily be multiplied.

⁴⁸ A typical series, following the heading *καὶ τὰδε ποτήρια . . .*, occurs in *I.G.*, XI, 2, 287, B, lines 129-142; but altogether many other specific words occur.

lapping, and neuter diminutives are freely formed. It is hardly surprising that attempts to define these terms descriptively have not been very successful.⁴⁹

For our *poterion* we may think of some kind of drinking cup, perhaps a kylix, since a good part of the *poteria* which are named in ancient sources could also come under this heading, which is only somewhat less general. The word κύλιξ is actually written, denominatively, on several ancient kylikes (showing, incidentally, that the name is correctly applied in modern times),⁵⁰ and there are also two inscribed Attic black-figured kylikes which declare themselves to be ποτήρια;⁵¹ yet another seems to claim both names at once.⁵² A kylix, then, seems quite likely for our *poterion*, but of just what kind, we do not know.

If τορ[ευτόν] is correctly restored, the cup listed here should be of metal. Although relief-work in pottery vessels was not uncommon in the late fifth century B.C.,⁵³ the adjective is not really appropriate to ceramics.⁵⁴ Silver was the commonest material for drinking cups of metal. There are numerous references, both literary and epigraphical, to silver *poteria*.⁵⁵ Most of those listed in the Delian treasuries mentioned above were of silver, and several examples appear separately in the Parthenon treasury inventories.⁵⁶ In our inscription, we should therefore expect τορρευτόν to refer to metal relief-work, whether pictorial or patterned, or both. A Milesian

⁴⁹ Sometimes it is hard even to say whether, for instance, a *kylix* or a *phiale* is meant; cf. H. Luschey, *Die Phiale*, Diss., Bleicherode am Harz, 1939, esp. pp. 18 f. (*rhodiake*), 21 (*cheli-doneios*), 28 (*therikleios*); and, in general, pp. 10-30 for the various terms which apply to *phialai*. Cf. also Dunbabin, *B.S.A.*, XLVI, 1951, p. 61 and note 49. In all this territory the modern Lexicons are practically useless.

⁵⁰ Richter and Milne, pp. 24-25. There are also cases of more generic use, κύλιξ on a Chiote chalice (*J.H.S.*, LXXV, 1955, Suppl., "Archaeological Reports," p. 22, pl. 2, e), and κολίξ (*sic*) on a kotyle (Beazley, 'Εφ. 'Αρχ., 1953-1954, pp. 205-206). It does not follow, however, that the graffito on the column-krater *C.V.A.*, Schloss Fasanerie (Adolphseck), I, p. 31, pl. 44, 5-6 (Pig Painter: *A.R.V.*, p. 371, no. 12) means to say that this vase is a kylix; nor should those on the amphoras Munich 2309 (Euthymides: *A.R.V.*, p. 25, no. 3) and London B 196 (Leagros Group, Painter "S": *A.B.V.*, p. 366, no. 84) be applied to the vases on which they are written (nor is this, presumably, what F. Brommer, *C.V.A.*, *loc. cit.*, wishes to imply, but the distinction needs to be kept clear).

⁵¹ Beazley, *J.H.S.*, LII, 1932, p. 178 and note 21 (Rhodes 10,527, Eucheinos Potter: *A.B.V.*, p. 162, no. 1; and Louvre F 66). The earliest self-named *poteria* are a deep drinking cup of the mid-seventh century which was found in the Athenian Agora (*Hesperia*, Suppl. II, 1939, pp. 124-126, B 55, figs. 89-90), and, possibly still earlier, a skyphoid cup of Geometric style found on the island of Ischia near Naples (*J.H.S.*, LXXVI, 1956, Suppl., p. 61, fig. 14).

⁵² London B 601.10 and B 601.7, fragments from Naukratis: *A.B.V.*, p. 79, above, middle, connected with Kleitias.

⁵³ Cf. G. M. A. Richter, *Attic Red-Figured Vases*, New Haven, 1946, pp. 162-163, and p. 200, notes 56-58.

⁵⁴ Milne, *A.J.A.*, XLVI, 1941, pp. 395-396.

⁵⁵ Milne, *op. cit.*, pp. 392-393.

⁵⁶ E.g., *I.G.*, I², 236, lines 87-88; 239, lines 50-51; 313, lines 11-12.

inscription⁵⁷ describes a skyphos which was decorated with a braid pattern as well as figure-work in relief; cups ornamented with relief are attributed to Kalamis⁵⁸ and Mys;⁵⁹ and there are numerous examples of pattern-work among the cups which are described, in the inscriptions, as "myrtled," "ribbed," or the like.⁶⁰ The identification of our ποτή[ριον] πορ[ευτόν] with silver cups of this kind depends, of course, on the correctness of the restoration, but the extant letters of the text point most strongly in the direction followed here.

Such a silver drinking cup would be a very handsome, and thus far unique, example in the Stelai of the fine silver tableware which the wealthiest of the Profaners must have owned. Even in their fragmentary state, the Stelai are remarkably lacking in entries which refer to small objects of any great value. Nevertheless, we know that fifth-century tables were graced with such treasures,⁶¹ which, like jewelry in modern times, must have served also as an easily portable reserve of wealth for the vulnerable rich.⁶² The reason why such precious objects are not found elsewhere in the Stelai can only be that they had already been successfully removed by the convicted persons, or stolen by others. If our proposed interpretation of this passage is correct, the unlucky victim⁶⁴ was unable to secrete this valuable piece before it was seized by the State.

3. ΜΥΚΕ

(V, 35)

The whole line reads [μ]ύκη χού μολυβδόδετος (price lost). One's first thought is that the χούς of this entry might refer to an actual vessel, to which the *myke* belonged, but this interpretation leads to serious difficulties. If this chous were indeed a vase,⁶⁵ we know very well what it should look like (Pl. 48, g; P 23861, plain glazed). The vase of this name is a variety of oinochoe. It has a broad base; a squat, plump body; a rather wide neck and mouth opening with trefoil lip; and a single vertical handle opposite the pouring side.⁶⁶

⁵⁷ Cf. above, p. 206, note 42.

⁵⁸ Pliny, *H.N.*, XXXIV, 47.

⁵⁹ Athenaeus, XI, 782 b.

⁶⁰ Cf. *Univ. Calif. Publ. Class. Arch.*, I, 8, 1941, p. 191 and p. 198, note 124.

⁶¹ See D. B. Thompson, *Hesperia*, VIII, 1939, pp. 313, 314-315, and cf. especially Plutarch, *Alc.*, 4.

⁶² Cf. D. B. Thompson, *op. cit.*, p. 315.

⁶⁴ Nikides (cf. lines 166-167), who appears also in line 85, and in Stelai II (lines 172 and 176) and IV (lines 17-18).

⁶⁵ Cf. Liddell-Scott-Jones, *s.v.* χούς (principal emphasis on the measure, but some of the passages cited under this heading have to do with the actual vase); Richter and Milne, pp. 19-20 ("Oinochoe, Type III"), figs. 118-121.

⁶⁶ This identification is also confirmed by the many examples of such vases that are decorated

The trouble is that, if this chous is an actual vessel, then *myke* should be something belonging to it, for which it is hard to imagine anything other than a lid. Although the word *μύκη* (or *μύκης*)⁶⁷ seems not to occur elsewhere with quite the meaning needed here, its original sense ("mushroom") and its extended uses call for something mushroom-shaped. A lid might answer to this description, but it would be very surprising to find a fifth-century chous equipped with a lid, mushroom-shaped or not. The chous, a vessel designed for dipping and pouring, would have little reason for needing a lid, and archaeological evidence for the existence of Attic oinochoai with lids is almost totally lacking.⁶⁸

Another solution, which seems much better, is to take *μύκη* as a form of container, *χοῦ* as an expression of its capacity.⁶⁹ The *chous* was a liquid measure equal to one-twelfth of an Attic amphora. Official measures found in the Athenian Agora and on the North Slope of the Acropolis appear to fix its content at approximately 3.2 liters.⁷⁰ The word is used twice elsewhere in a similar sense (Stele VI, lines 60-61 and 64-65), where, however, the total quantities of wine are given in amphoras, with the fractional remainders stated in *choes*.⁷¹ If the meaning of *χοῦ* is 'having the capacity of a chous,' the *μύκη* then must be a container for liquids, holding this specified amount, and of a shape somehow suggesting a mushroom.⁷² The fact that it was *μολυβδόδετος*, 'bound or fastened with lead,' surely indicates that our *myke* was a clay vessel, mended with leaden clamps, a kind of repair which was very extensively practiced and which prolonged the useful life of many a broken pot.⁷³

with scenes referring to the festival of the *Choes*; cf. especially L. Deubner, *Attische Feste*, Berlin, 1932, pp. 246-247; H. R. W. Smith, *C.V.A.*, San Francisco, I, text, pp. 47-48; S. Karousou, *A.J.A.*, L, 1946, pp. 122-139; G. Van Hoorn, *Choes and Anthesteria*, Leiden, 1951.

⁶⁷ Cf. Liddell-Scott-Jones, *s.v.* *μύκη*; *μύκης*, where the form and gender are discussed, with some doubts as to the legitimacy of a full first-declension paradigm. The gender of *μύκη* is not determined, but the existence of this nom. sing. form is here epigraphically established.

⁶⁸ One example is the b.-f. olpe, *C.V.A.*, Compiègne, pl. 11,22 (No. 1008). The lid, which fits and is said to belong, has a tall button-handle not unlike certain kinds of mushrooms. Another b.-f. olpe, found in a grave, was apparently "stopped" by a small, footed bowl, inverted and placed over the mouth of the olpe (*Clara Rhodos*, III, p. 164, fig. 156), but the bowl obviously was not made for this purpose. There are also Attic Geometric pitchers with lids (e.g., *Hesperia*, Suppl. II, 1939, p. 72, fig. 46, XIV-1, and p. 102, fig. 72, XXV-2), and lids were regularly provided for Corinthian broad-bottomed oinochoai. None of these cases, however, has much relevance to late fifth-century *choes*.

⁶⁹ This idea was first suggested by Miss Clairève Grandjouan. The arguments for it, as presented here, were developed mainly by Miss Lucy Talcott.

⁷⁰ Broneer, *Hesperia*, VII, 1938, pp. 222-223, fig. 57; Susanne Young, *Hesperia*, VIII, 1939, pp. 278-279, figs. 2-3. Cf. also Pritchett, Part II, p. 195.

⁷¹ I agree with Pritchett (Part II, pp. 199-203) that the *choes* of Stele VI are fractional measures, and do not express the standard of capacity for these amphoras (evidently Attic in one case, hence they should conform to the Attic standard of twelve *choes* each).

⁷² The definition given by Suidas, *s.v.* *μύκη*: *θήκη*, i. e., a 'container,' 'chest,' or 'sheath,' is too vague to be of much use here. Certainly a box-like container would not be appropriate.

⁷³ *Μολυβδόδετος* occurs elsewhere only in Pollux, VI, 88, where *μολυβδόδετοι ἐσχάραι* are mentioned

The shape which seems best to meet all these requirements is a two-handled wine jug of peculiar form, which flourished briefly in Athens at the end of the fifth century and into the fourth. A typical example is illustrated on Plate 48, i.⁷⁴ The dome-shaped upper part of the body, met at a sharp angle by the flaring lower part, does indeed strongly suggest the form of a mushroom. The size of these vessels varies; the one illustrated here holds somewhat less than a chous, but another example holds rather more.⁷⁵ The fact that our *myke* happened to be chous-sized may have been noted exactly because its equivalence to a standard measure would have increased its usefulness and its market value.

The identification of the *myke*⁷⁶ with this humble two-handled decanter has no direct proof to support it. It is here offered tentatively, in the hope that conclusive evidence may one day be forthcoming. The angular, domed-topped vase is not known to have continued beyond the earlier years of the fourth century, and we need not be surprised that it and its name were unknown to the lexicographers of later times, such as Suidas. Its function was taken over in the Hellenistic period by the ubiquitous *lagynos*,⁷⁷ the form and use of which recommended it as the logical successor to the shape which we would call a *μύκη*. The strong resemblance between the two shapes, at least in their bodies, may be fortuitous, since it is improbable that the *lagynos* shape originated in Athens.⁷⁸ It is, however, of some interest that the name of this highly specialized vessel,⁷⁹ which in later times served the purposes of our “*myke*,” also designated a measure of twelve kotylai, or one Attic chous.⁸⁰

among the objects used in cookery (see below, p. 230, note 101). The meaning there (not understood by Pollux?; note his use of the generic plural) seems also to be ‘mended with leaden clamps.’ Lead was very cheap in Athens (see under funnels in next number of this journal), and it was freely used for mending coarse as well as fine pottery, from the Bronze Age onward (cf. O. Broneer, *Hesperia*, VIII, 1939, p. 401 and note 134).

⁷⁴ Agora P 9428; *Hesperia*, VII, 1938, p. 346, fig. 30; *A.J.A.*, XLI, 1937, p. 181, fig. 5. For other examples and for the history and uses of the shape, see P. E. Corbett, *Hesperia*, XVIII, 1949, pp. 334-335, no. 92, pl. 96, nos. 92, 163-165. Numerous unpublished specimens of the same type, and from the same period, have been found in Agora deposits. The shape seems also to be represented on the wine jar stamp Agora SS 1844 (*Hesperia*, III, 1934, p. 304, above), as Virginia Grace has noticed.

⁷⁵ Corbett, *op. cit.*, p. 345, no. 163, pl. 96. The shape is not quite the same and there is only one handle, but this vase, though appreciably earlier, belongs to the same general class as the others; it represents a preliminary step toward the mushroom-shaped decanter.

⁷⁶ Other vase-names sometimes are inspired by natural shapes, e.g., the *lopas*, or ‘limpet,’ which, if one may judge from the usage of Aristophanes’ day, was probably the shallow lidded casserole, common in household deposits of the fifth century B.C. Cf. Liddell-Scott-Jones, *s.v.* *λοπάς*. A characteristic example is shown on Plate 49, e; Agora P 2360.

⁷⁷ G. Leroux, *Lagynos*, Paris, 1913.

⁷⁸ Leroux, *op. cit.*, pp. 82-84; cf. *Hesperia*, III, 1934, pp. 450 f.

⁷⁹ For the identification with *lagynos*, which is surely correct, see Leroux, *op. cit.*, pp. 74 ff.

⁸⁰ Athenaeus, XI, 499 b. The use of *λάγυνος* for a measure as early as the archaic period is also indicated, *ibid.*, 499 e, by the quotation from Stesichoros, *ἔμμετρον ὡς τριλάγνον*. Hence the word is

In addition to the evidence offered above, there is one other argument in favor of identifying this remarkably mushroom-shaped vase as a *myke*. This is the very fact that it had so short but so vigorous a life, the heyday of which coincides so exactly with the time of the Stelai.

4. CHYTRA

(I, 15-17)

This series of three entries, in a badly mutilated passage, has been restored to read [χύτ]ρα χαλκῇ, thrice repeated. The prices are lost. Of the first word, only the last letter is preserved in line 17, the last two letters in lines 15-16, but in each case the second word is complete. The context helps little toward restoration, but χύτρα may stand as a good guess.

*Chytrai*⁸¹ are common cooking pots, frequently mentioned in literature. Sometimes the use of the word suggests that its meaning was generic,⁸² but in most cases a fairly specific kind of vessel seems to be meant.

One gathers that it was usually rather small, for it could be carried about.⁸³ It commonly had two handles, as is shown by the use of the term *chytra* for a kind of kiss in which the ears of the kissing partner were grasped.⁸⁴ It must have been wide-mouthed, for a baby could be put into one.⁸⁵ There is no mention of its having a base or foot, and indeed it was often placed on a separate base or stand (χύτρόπους or λάσανα).⁸⁶

We are, fortunately, able to identify the shape of the *chytra*. The Agora excavations have yielded many pottery vessels of cooking ware, extending over a long period

old enough to suggest that in the fifth century *lagynos* and *myke* might have been synonyms. But the former does not occur as a vase shape before the fourth century B.C.; the shape itself, and the descriptions which clearly identify it, do not come before the Hellenistic period (cf. Leroux, *op. cit.*, pp. 74 ff.). Therefore it seems best to keep for our fifth-to-fourth century decanters the highly descriptive name *myke*, reserving *lagynos* for the distinctive long-necked jug of the Hellenistic period.

⁸¹ Χύτρα: Liddell-Scott-Jones, *s.v.*; Stephanus, *Thes.*, *s.v.*; E. Saglio, *Dictionnaire*, I, pp. 1140-1141, *s.v.* *Chytra*.

⁸² As, for instance, in the use of the term αἱ χύτραι for the pottery market: Aristophanes, *Lys.*, 557; Pollux, VII, 163; cf. Saglio, *loc. cit.* Note also that the word χυτρεύς (Liddell-Scott-Jones, *s.v.*; Blümner, *Technologie*, I², p. 33) is occasionally used for 'potter.'

⁸³ E.g., Aristophanes, *Lys.*, 297, 308, 315; *Plut.*, 1198 ff.; *Av.*, 358 ff. In Plato, *Hipp. Maj.*, 228 D, a fine, well formed chytra is given a capacity of six choes (about five gallons), but here the large size contributes to the beauty of the pot, in a theoretical discussion. In practice, we should, however, expect a pot of such great utility to be made in a fairly wide range of sizes.

⁸⁴ Eunikos, in Pollux, X, 100; cf. also Plato, *loc. cit.*

⁸⁵ Aristophanes, *Thesm.*, 505, 509, oddly misrepresented in Liddell-Scott-Jones as a case of infant exposure. But cf. χυτρίζω, ἐγχυτρίζω, and see especially Aristophanes, *Vesp.*, 289 and Scholion *ad loc.*

⁸⁶ Aristophanes, *Pax*, 893 and Scholion; Diokles in Pollux, X, 99.

of time, which correspond exactly to the type indicated by the literature.⁸⁷ A good example, from the middle of the fifth century, is shown on Plate 48, h.⁸⁸ Its form is characteristic of the type: no foot, round pot-belly, wide mouth, two handles set vertically opposite each other. Direct confirmation of the name has at last been found in the dipinto on a Hellenistic coarse-ware pot of this shape, found at Corinth.⁸⁹ There is some difficulty in reading the full text of the graffito (cursive, and partly obscured) but the words which identify the pot as a *χύτρα* are clear.⁹⁰ If chytrai are meant in Stele I, lines 15-17, this familiar shape should no doubt be assumed for them.

The chytra seems especially well designed for cooking meats and broths over a fire; it was used for carrying the coals to start a fire;⁹³ and uglier uses are also known.⁹⁴ Although the chytra was ordinarily made of clay⁹⁵ (and unpainted),⁹⁶ there were also examples in bronze, which were therefore more durable and of course more valuable. In Aristophanes (*Plut.*, 812) prosperity is marked by the possession of bronze kitchenware, including *chytrai*. In the temple inventories we find *chytrai* of bronze,⁹⁷ as well as *chytrides* of silver⁹⁸ and *chytridia* of some undetermined material (silver?).⁹⁹

In our passage the material, bronze, is certain, and the restoration of *χύτρα* seems reasonably convincing. For the shape of these objects, we can picture something like the clay pot shown on Plate 48, h.

⁸⁷ Cf. Saglio, *loc. cit.* (above, note 81).

⁸⁸ Agora P 21947; Boulter, *Hesperia*, XXII, 1953, p. 95, pl. 35, no. 115. One-handed vases, of the same fabric and designed, evidently, for the same uses, are also common, e. g., *ibid.*, pl. 35, no. 116. The two-handed kind ideally suits the description, but all such cooking pots, large and small, one-handed or two-handed, were doubtless called *χύτραι*.

⁸⁹ Corinth C 48-65. G. R. Edwards, *Hesperia*, XVIII, 1949, p. 152, pl. 16,15 and 16 right. Fragmentary and mended, the missing parts restored in plaster, but the shape is fully determined by the extant parts.

⁹⁰ *Ibid.*, pl. 16,15. Mabel Lang, who brought this vase to my notice, tentatively reads the dipinto as follows: *χωρεῖ ὄγκος τῆς χύτρας κιννάβαριν μνᾶς τριάκοντα*, 'The capacity of this *chytra* (is such that) it holds 30 mnas' worth of cinnabar.' See also Edwards, *loc. cit.*

fire⁹¹ but it was also put to other uses. It appears among sacrificial implements;⁹²

⁹¹ So often in Aristophanes, where the word is frequently used, e. g., *Eccl.*, 1092; *Plut.*, 673, 682, 686; *Ran.*, 983; *Av.*, 78; *Eq.*, 1174; *Frag.* 591. Cf. Pollux, VII, 88 and X, 95.

⁹² Aristophanes, *Av.*, 42; *Ach.*, 284.

⁹³ Aristophanes, *Lys.*, 297, 308, 315; *et al.*

⁹⁴ See above, note 85.

⁹⁵ Aristophanes, *Thesm.*, 403; *Ach.*, 284; cf. *Plut.*, 812. See also Pollux, VII, 162 and X, 122; Plato, *Hipp. Maj.*, 288, D.

⁹⁶ On the expression *χύτραν ποικίλλειν* for useless effort, cf. Scholion to Aristophanes, *Vesp.*, 279. The fire-blackened aspect of chytrai (often observed in actual specimens) is also relevant: Aristophanes, *Eccl.*, 734; *Vesp.*, 938.

⁹⁷ E.g., *I.G.*, II², 1416, lines 3-4; *Insc. Délos*, 1400, A, line 5 and 1409, B^a, II, line 27.

⁹⁸ *I.G.*, XI, 2, 110, line 115 *et al.*; Dittenberger, *Syll.*², 588, line 93.

⁹⁹ *I.G.*, II², 1426, line 21; *Insc. Délos*, 1403, A^b, I, line 84.

5. ALABASTOS

(I, 234)

Six *alabastoi* are entered in this line (price lost) in the company of beds, tables, and coverings. The meaning of the word ἀλάβαστος¹⁰⁰ (later ἀλάβαστρος and ἀλάβαστρον)¹⁰¹ is securely established. It refers to the familiar vase of “alabastron” shape¹⁰² which was used for holding μύρον, or perfumed oil.¹⁰³ Nowhere is it an ‘alabaster box’ or ‘casket,’ as in the eighth edition of Liddell and Scott, and in English translations of the Bible,¹⁰⁴ and often in translations of other works.

¹⁰⁰ Ἀλάβαστος: Liddell-Scott-Jones, *s.v.*, with the reservations noted below; Boisacq, *Dictionnaire*⁴, *s.v.*, but cf. K. Sethe, *Sitz. Berl. Akad. Wiss.*, 1933, 1, pp. 882-889; A. Mau, *R.E.*, I, 1894, cols. 1272-1273, *s.v.* Ἀλάβαστρον, 2; E. Saglio, *Dictionnaire*, I, pp. 175-177, *s.v.* Alabaster ou Alabastrum; Richter and Milne, pp. xviii, 18, figs. 109-111; *Thesaurus Linguae Latinae*, *s.v.* alabaster; H. E. Angermeier, *Das Alabastron*, Diss., Giessen, 1936.

¹⁰¹ On the forms, cf. Liddell-Scott-Jones, *s.v.* The earlier spelling, ἀλάβαστος, is also used or specifically mentioned by the lexicographers, e.g., Hesychius, *s.v.*; Bekker, *Anecd.* I, p. 374; *Etymologicum Magnum*, *s.v.*; *Etymologicum Gudianum*, *s.v.* ἀλάβαστρον; Suidas, *s.v.* ἀλαβαστροθήκη. The form with rho was already coming into use in the fourth century B.C.: *I.G.*, II², 1501, B, line 4 (= *I.G.*, II¹, 745). The spelling ἀλάβαστος is supported also by ἀλαβαστοθήκη in *I.G.*, II², 1425, lines 265-266, 270 (i.e., Ἐφ. Ἀρχ., 1903, 143-144 [not 443], col. 3, lines 53-54, 59); Demosthenes, XIX (*Fals. Leg.*), 237; and Pollux, X, 121; ἀλαβαστοθήκας τῶν ἄλλων λεγόντων Ἀριστοφάνης ἐν Τριφάλῃσι ἀλαβαστροθήκας ἔφη. For Aristophanes, however, Pollux may have been quoting from a manuscript already corrupted by the later spelling. Sethe, *op. cit.*, p. 887, note 3, suggests a similar corruption (or “modernization”) for the text of Herodotos, III, 20, 1, where the MSS have ἀλάβαστρον (masc. according to Suidas *s.v.* λήκυθος, but gender not shown by the context).

¹⁰² Richter and Milne, p. 18. In the new Liddell-Scott-Jones definition, which corrects the eighth edition, “globular vase without handles” is wrong on both counts: “globular” by confusion with aryballoi, “without handles” under influence of the late definitions, based on false etymology?

¹⁰³ Μύρον ἀλάβαστος, or the like: Herodotos, III, 20, 1; Krates Comicus, *Frag.* 15,6 (in Athenaeus, VI, 268 a); Alexis Comicus, *Frag.* 62 (*ibid.*, XV, 691 e); Euboulos, *Frag.* 100 (in Pollux, X, 120); Kallimachos, *Lav. Pall.*, 13 and 15; Theokritos, XV, 114; New Testament, *Ev. Marc.*, XIV, 3, *Ev. Matth.*, XXVI, 7 and *Ev. Luc.*, VII, 37; Lucian, *Meretr.*, XIV, 2; etc. In Latin, *alabastra unguenti*, Cicero, *ac. Frag.* 11; Petronius, 60; and often. Cf. Pliny, *H.N.*, XIII, 19, *unguenta optime servantur in alabastris*. Most of the Greek lexicographers specify *myron* as the proper contents. More narrowly, the inscription on an alabastron of alabaster from Egypt, in the Louvre, gives the scent: Κιννάμωμον παρὰ Κρινίππου (*Arch. Anz.*, 1910, cols. 503-504).

¹⁰⁴ *Ev. Marc.*, XIV, 3; *Ev. Luc.*, VII, 37; *Ev. Matth.*, XXVI, 7. The correction was already observed in the 1921 edition of *Webster's International Dictionary*, *s.v.* Alabastrum. The reading ‘alabaster box’ occurs in both the King James and the Douay as well as other English versions of the Bible. Although the definition of ἀλάβαστος was altered in the Liddell-Scott-Jones *Lexicon* (see above), this edition still gives, for the ἐξάλειπτρον of Aristophanes, *Ach.*, line 1063, the old definition, ‘unguent-box,’ but the object in question can only be the alabastron mentioned in line 1053. Cf. the Scholion on line 1063: πρόφερε τὸ ἀλάβαστρον, φησίν, ἐξ οὗ ἀλείφονται οἱ δειπνοῦντες, τὴν τοῦ μύρου λήκυθον (cf. also Pollux, VI, 106). The verb ὑπέχε, before ἐξάλειπτρον, is graphically illustrated by the way in which alabastra are usually carried (e.g., Richter and Milne, fig. on p. 21). But *exaleiptron*, which is not descriptive in itself, seems later to have the meaning of ‘basin,’ e.g., in

Although there are many variants, the basic shape of the alabastron is distinctive, and it may go back to a very early period in Egypt, whence it is derived.¹⁰⁵ So also the name,¹⁰⁶ and no doubt many of the specimens in alabaster and other materials which are found widely distributed throughout the Mediterranean area. The earliest Egyptian examples, of alabaster, may antedate the Greek period by many centuries, but the type is commonest in the Saitic period and later.¹⁰⁷ It is found in classical sites over a wide area, including Greece¹⁰⁸ and Italy,¹⁰⁹ as are also the many glass alabastra, in the manufacture of which at least one important center was Egypt.¹¹⁰

Antiphanes, Frag. 208 (in Pollux, IV, 183; cf. X, 46) and in the Septuagint, *Job*, XLI, 22; on ἀλείφουμαι in connection with louteres, cf. below, p. 221. In Aristophanes, we may be sure that the obscene suggestion in line 1066 was suitably demonstrated on the alabastron.

¹⁰⁵ W. von Bissing, *Musée du Caire, Catalogue général: Steingefässe*, Vienna, 1904-1907, p. xii, seems to place the origin of the type familiar to the Greeks "no earlier than the end of the Middle Kingdom," but an Old Kingdom date is claimed by H. Ranke (*Art of Ancient Egypt*, Vienna, 1936, fig. 284, right), for a very clear, if somewhat plump, example of the type in question here. Petrie, *Funeral Furniture and Stone Vases* (*Pub. Brit. Sch. Arch., Egypt*, vol. LIX, 1937), pp. 14-15, 37, seems to date the type to the Saitic period and later. I do not see the relevance of the supposed Egyptian prototypes in clay which are cited by Angermeier, *op. cit.*, p. 12: *Qau and Badari*, III, *B.S.A.E.*, vol. L, pl. 18, 30 M, 40 M, 60 D, 61 C). Evidently there is need for a study of the history of the shape in Egypt.

¹⁰⁶ Cf. Sethe, *op. cit.*, p. 888, who states that the name of the stone, alabaster, is derived from the vase's name, and not *vice versa*. So also Mau, *loc. cit.* and Richter and Milne, *loc. cit.*

¹⁰⁷ Most of the specimens in Cairo which have the characteristic "classical" (Greek) form are dated to the Late Period by von Bissing, *op. cit.*, pl. 3, nos. 18317, 18322, 18325, 18326, etc., and text thereto. Cf. also Petrie, *op. cit.*, pp. 14-15.

¹⁰⁸ E.g., Rhodes (Chr. Blinkenberg, *Lindos*, Berlin, 1931, p. 671, nos. 2860-2862); Thera (H. Dragendorff, *Thera*, II, Berlin, 1903, p. 53, Grave 66); Delphi (*Fouilles de Delphes*, V, Paris, 1908, p. 208, fig. 907); Corinth (G. R. Davidson, *Corinth*, XII, *The Minor Objects*, Princeton, 1952, No. 832, p. 125, pl. 61); Athens (*Ath. Mitt.*, XVIII, 1893, pp. 167-170: in a woman's grave of the fifth century B.C., an alabastron—of alabaster?—fitted with a silver mouth, and, near it, a silver dipstick); Olynthos (*Olynthus*, XIII, pp. 422-423, pls. 255-256, nos. 1067-1069 A); Delos (cf. Robinson, *loc. cit.*); and this is only a sampling. Also, of course, in the Near East, as at Deir el-Hayek, in North Syria (*Liverpool Ann. Arch.*, 1914-1916, pl. 26, 2-3; fifth-century context).

¹⁰⁹ E.g., the Tomba Regolini-Galassi at Cervetri (O. Montelius, *La civilisation primitive en Italie*, II, Stockholm, 1904-10, pl. 337); Spina (S. Aurigemma, *Il regio Museo di Spina*², Ferrara, 1936, pp. 106, 206, 220, etc. found with Attic fifth-century vases). Also popular, the plastic type with figured upper end, as at Vulci in the "Isis" Grotto (Montelius, *op. cit.*, pl. 266, 3; G. Q. Giglioli, *L'arte etrusca*, Milan, 1935, pl. 50,4); for its Eastern origin, see Blinkenberg, *Lindos*, p. 471, no. 1921.

¹¹⁰ Concerning glass alabastra, which were common from the sixth century B.C. onwards, and on their faience predecessors in the Mediterranean trade, cf. Blinkenberg, *Lindos*, pp. 669-671, who states that glass vases were made in Egypt from the Eighteenth Dynasty onward, but were not widely distributed before about 550 B.C. They are found very often at Italian sites, e.g., Bologna (Montelius, *Civ. prim.*, I, pl. 103,8), Montefortino (*ibid.*, II, pl. 156,1), Cumae (*Mon. Ant.*, XII, pls. 90, 117), Spina (Aurigemma, *Spina*², pl. 80), perhaps less commonly in Greece. But examples have been found at Delos and at Rhitsona (P. N. Ure, *Aryballoi and Figurines from Rhitsona in Boeotia*, Cambridge, 1934, p. 76), on Rhodes (Ure, *loc. cit.*), and Cyprus (E. Gjerstad, *Swedish Cyprus Expedition*, IV, 2, Stockholm, 1948, pp. 173-174, fig. 38).

In Greek pottery, the adoption of the alabastron shape is said to have followed two distinct courses, one in Corinthian ware, the other in Attic. The Protocorinthian alabastron, according to Payne,¹¹¹ was not derived directly from the Egyptian type, but rather from an Asiatic ("Assyrian") version. From the Protocorinthian there developed in its turn the regular Corinthian alabastron with its bag-like shape and its single loop handle below a widely overhanging lip.¹¹² In Attica, on the other hand, the alabastron shape, which first appears around the middle of the sixth century¹¹³ and is continuously popular to the end of the fifth,¹¹⁴ seems to be copied directly from the Egyptian prototype of alabaster, contemporary versions of which were reaching Greece during this period. The two principal types, those with two lugs and those completely without handles, are both derived from Egyptian alabaster vases,¹¹⁵ and so, probably, is the rare "Columbus" alabastron with its flattened bottom.¹¹⁶ After the fifth century, the last-named type has a kind of successor (with ring foot) in Italiote pottery, where this shape became widely popular.¹¹⁷

The perfumed oil which came in alabastra was much used in fifth-century Greece, as we know not only from numerous references to it in literature¹¹⁸ but also from the many representations in art. Its use, as one would expect, is most closely associated with women¹¹⁹ and funerals.¹²⁰ Usually it was applied with a dipstick or spatula

¹¹¹ H. G. G. Payne, *Necrocorinthia*, Oxford, 1931, pp. 269-270, and note 3. K. F. Johansen (*Les vases sicyoniens*, Paris and Copenhagen, 1923, p. 102) had taken the shape to be "une imitation fidèle de la bourse en cuire serrée en haut et portée par une ficelle."

¹¹² Payne, *op. cit.*, p. 281.

¹¹³ The earliest example, decorated by the Amasis Painter, was found in the Athenian Agora (E. Vanderpool, *Hesperia*, VIII, 1939, pp. 247-256; on the shape, p. 251; *A.B.V.*, p. 155, no. 64). It is slightly Corinthian-looking in the baggy shape of the body and in the width of the lip, but it has two lugs, like most Egyptian alabastra of the time.

¹¹⁴ Cf. Haspels, *A.B.L.*, pp. 100-104; Richter and Milne, *loc. cit.*; *A.R.V.*, Index of Collections, *passim*.

¹¹⁵ E.g., von Bissing, *op. cit.*, pl. 4, showing numerous specimens of both types.

¹¹⁶ Beazley, *C.V.A.*, Oxford, 1, pl. 47, figs. 10, 14, and those mentioned on p. 38. Add one by the Pan Painter, *Arch. Anz.*, 1932, cols. 15-16, fig. 2; *A.R.V.*, p. 367, no. 73. There are also two specimens in Beirut, C. Clairmont, *Berytus*, XI, 1955, p. 129, pl. XXIX, 10-11, nos. 2975 A-2975 B; cf. others cited there. Egyptian: von Bissing, *op. cit.*, pl. 4, no. 18684, and others. Corinthian alabastra with flattened bottom are not uncommon, and this shape was very popular in Italo-Corinthian pottery. One group of Corinthian alabastra is provided with a distinct foot-ring: Payne, *op. cit.*, Cat. Nos. 388, 456A, and others decorated by the same artist.

¹¹⁷ E.g., Apulian, *C.V.A.*, Taranto, I, IV D r, pl. 38, 5; "Gnathia" ware, *C.V.A.*, Lecce, I, IV D s, pl. 6, 3-4; Campanian white-coated, *Mon. Ant.*, XXII, pl. 110, 8, and two examples in the Portland Art Museum (Nos. 26.90 and 26.101). Cf. also Beazley, *V.P.*, p. 75, note 2.

¹¹⁸ Cf. V. Chapot, *Dictionnaire*, V, pp. 591-598, *s.v. Unguentum*; also above, note 103.

¹¹⁹ E.g., on the hydria by the Phiale Painter, Berlin F 2385 (*Annali*, 1844, pl. K; *A.R.V.*, p. 656, no. 62), and on the Meidian lekanides in Naples, Stg. 316 and M. N. 2296 (G. Nicole, *Meidias*, Geneva, 1908, pp. 101-102, figs. 22-23; *A.R.V.*, p. 840, nos. 76-77), and very often.

¹²⁰ See below, note 122.

(σπάθη, σπαθίς; cf. σπαθίζομαι),¹²¹ to the hair or elsewhere on the person, as we can see from representations in vase-painting.¹²² The great number of alabastra which are shown hanging on walls¹²³ or being carried in womens' primping scenes¹²⁴ or on funerary lekythoi¹²⁵ are eloquent witnesses to the popularity of perfumes in Greece at this time.

Alabastra, which in their usual form would not safely stand upright, were kept in a special case called an *alabast(r)otheke*.¹²⁶ This meaning is given for the word by Pollux¹²⁷ and Suidas,¹²⁸ and such boxes are shown in use in red-figured vase-paintings.¹²⁹ The Parthenon inventories list an *alabastotheke* of wood, and another (material not stated) with a silver chain.¹³⁰ Demosthenes,¹³¹ no doubt with reference to wooden examples,¹³² mentions among humble but respectable occupations that of painting alabastothekai.

¹²¹ E.g. Euboulos in Pollux, X, 120; Hesychius, *s.v.* σπαθίζομαι. For the form of these spatulae, cf. the examples in the Metropolitan Museum, from Cyprus: J. L. Myres, *Handbook of the Cesnola Collection*, New York, 1914, p. 492, nos. 4831-4834 (bronze); also G. M. A. Richter, *Metropolitan Museum of Art, Greek, Etruscan and Roman Bronzes*, New York, 1925, nos. 871-873. A glass example: Myres, *op. cit.*, p. 506, no. 506 D.

¹²² E.g., in Attic r.-f., Pfuhl, III, fig. 564 (Group of Polygnotos; *A.R.V.*, p. 695, no. 1); in Etruscan r.-f., Beazley, *E.V.P.*, p. 78, pl. XIX, 2. In some vase-paintings, the tip of the spatula may be seen projecting from the alabastron, as on the Phiale Painter's hydria and on the first Meidian lekanis mentioned above (note 119). In Athens, a fifth-century grave of a woman yielded an alabastron and a silver spatula together (cf. above, note 108).

¹²³ E.g., see the list in Haspels, *A.B.L.*, p. 101, note 2.

¹²⁴ E.g., on the vases mentioned above, in note 122.

¹²⁵ E.g., Pfuhl, III, figs. 529 (Achilles Painter; *A.R.V.*, p. 640, no. 98) and 551 ("Group R"; *A.R.V.*, p. 828, no. 14). Alabastra pictured on painted grave stelai, *Jahrb.*, XXIV, 1909, pp. 56-57 (with references to others), pl. 5. Like the funerary lekythoi, many Attic alabastra are white-ground with polychrome decoration.

¹²⁶ Ἀλαβαστοθήκη: Liddell-Scott-Jones, *s.v.* (on the spelling, cf. above, note 101); E. Saglio, *Dictionnaire*, I, p. 177, figs. 207-208.

¹²⁷ Pollux, X, 121, which contradicts both the *Lexicon's* definition "case for alabaster ornaments," and the statement that Aristophanes (Frag. 548) uses the term in a general sense for "a small box or casket." Nor, indeed, is it at all clear why *alabastrotheke* in *British Museum Papyri*, II, London, 1898, no. 402, *verso*, line 28, should have a more general meaning than the word has elsewhere.

¹²⁸ Suidas, *s.v.*

¹²⁹ E. Saglio, *loc. cit.* Also on the lekanis Naples 2296 (above, note 119). As Saglio says, many other boxes of this shape which do not show their contents may be presumed to contain alabastra. (The reason for wishing to own alabastra in such numbers would be, of course, to have available a variety of scents). An Etruscan example, with tops of alabastra showing (*C.V.A.*, Villa Giulia, I, IV B r, pl. 6, 2; Beazley, *E.V.P.*, p. 83) is shaped like a Praenestine cista.

¹³⁰ *I.G.*, II², 1425, lines 265-266, 270 (see above, note 101). Cf. also *I.G.*, II², 1408, line 8.

¹³¹ Demosthenes, XIX (*Fals. Leg.*), 237. The translation of C. A. Vince and J. H. Vince (Loeb Library edition), giving 'alabaster boxes' for *alabastothekai*, cannot stand.

¹³² Compare Egyptian cosmetic-boxes of wood, such as von Bissing, *op. cit.*, *Nachträge*, pl. D, 18721a, and (more elaborate) Ranke, *op. cit.*, fig. 301.

At the end of the fifth century B.C., Attic clay alabastra were still being produced,¹³³ but this must also have been a time when imported examples, both of alabaster and of glass, were very popular. We have also, besides the extant alabastra of pottery, stone and glass, references to examples made of gold¹³⁴ and of silver.¹³⁵ It might seem hazardous, therefore, to try to specify the most likely material for the alabastoi of Stele I. On the other hand, the very fact that their material is not stated makes it seem probable that these were "real" alabastra, made of alabaster,¹³⁶ of which those in other materials were frankly imitative. Furthermore, since no mention is made of their contents, it is almost a necessary conclusion that these were empty, not filled with some expensive perfume.¹³⁷

Excellent examples of alabastra made of alabaster have been found in Athens, outside the area of the Agora, in a group of women's graves dated in the third quarter of the fifth century B.C. These agree well with the contemporary representations in vase-paintings.¹³⁸ We may suppose that the *alabastoi* of Stele I were in all probability objects looking much like this fifth-century lot, one example of which is shown on Plate 49, a.¹³⁹ How much these objects may have brought at auction, we have no means of judging.

¹³³ E.g., cf. Richter and Milne, fig. 111. But examples with figure-decoration after about 430 B.C. must be very rare, and I know of none at all in Kerch ware.

¹³⁴ Theokritos, V, 114.

¹³⁵ Apparently of silver in *I.G.*, II², 1539, line 11 (late third century B.C.).

¹³⁶ They were not necessarily imported objects. The local manufacture, in Athens, of alabaster vases is attested by the drill cores of alabaster found on the Pnyx in a context of the fifth-fourth centuries B.C. (*Hesperia*, Supplement VII, 1943, p. 99, no. 11).

¹³⁷ E.g., cf. New Testament, *Ev. Marc.*, XIV, 3, where the alabastron of perfume, according to the grumbling Apostles, could have been sold for 300 denarii. Their objection lay not in the fact that the woman used some perfume on Christ, but that she broke the (glass?) alabastron and wastefully poured out the entire contents. On prices of perfumes, see Chapot, *loc. cit.* (above, note 118); A. C. Johnson in T. Frank, *Economic Survey of Ancient Rome*, II, Baltimore, 1936, p. 473, and Frank, *ibid.*, V, pp. 284-287. At Delos, in the third century B.C., we find *μύρον* selling once at 4 drachmai 3 obols per kotylos (*I.G.*, XI, 2, 287, A, line 54), *μύρον ῥόδινον* at 4 drachmai per kotylos (*ibid.*, 203, line 39).

¹³⁸ Cf. above, notes 119, 122, 125.

¹³⁹ Agora ST 201, of alabaster; cf. also Agora ST 196, *Hesperia*, VI, 1937, p. 363, fig. 24 (also *A.J.A.*, XL, 1936, p. 202, fig. 23) published with vases found in the same burial. Stone alabastra were evidently regarded as very desirable grave-furniture for women, since, in the fourth century B.C., "dummies" of limestone made by turning were deposited in such burials; cf. R. S. Young, *Hesperia*, XX, 1951, p. 115, no. 2, pl. 50, b; p. 118, no. 1, pl. 51, a; p. 121, no. 6; and p. 124, no. 1, pl. 52, b. These are all without lugs, like those found at Olynthos (above, p. 214, note 108), suggesting that these appendages fell out of favor during this fifth-to-fourth century interval. Cf. von Bissing, *op. cit.*, p. xii, who implies that the Egyptian alabaster specimens without handles, i. e. those in the "Late" series, are the latest. Most of those found at Delos (apparently from the "purification" burials on Rheneia; cf. K. A. Rhomaïos, *Δελ.*, 1929, p. 210) have lugs. The example found at Corinth (above, p. 214, note 108), which also has lugs, was found in a Roman context of the first century A.D., but this is the sort of object that might have been kept in use for a very long time, or might easily have "wandered" from its original context.

V. KETTLES AND BASINS

1. CHALKION THERMANTERION

(I, 96)

The χαλκίον θερμαντήριον¹ is a bronze cauldron used for heating water. It appears only once in the Stelai (I, 96), with a price of 25 drachmai 2 obols.² Even for bronze, this price suggests a vessel of considerable size.

In this expression, the two words are both adjectival in origin, but χαλκίον appears to be (substantivally) the stronger,³ since this word is often used, alone, to mean a bronze vessel; θερμαντήριον is then, in this case, its adjective, 'for heating' (sc. water). The substantive form θερμαντήρ, meaning a 'heating vessel' or a 'cauldron,' is found only in Pollux,⁴ and it may well be (as in the parallel case of *louter-louterion*; below, pp. 221-222) historically the later form. At least θερμαντήριον, though rare, is the only form attested for the classical period.⁵ The word *chalkion* may stand by itself for a bronze object of any kind, and in particular for 'bronze cauldron.'⁶ Hence the idea of a chalkion thermanterion is inherent in some passages in which water is heated in a chalkion.⁷ In temple inventories, too, although the meaning is sometimes hard to fix exactly, the word χαλκίον occurs often enough in what appears to be this sense.⁸

¹ Cf. Liddell-Scott-Jones, *s.v.* χαλκίον, θερμαντήριον; E. Saglio, *Dictionnaire*, I, p. 822, *s.v.* *Caldarium*.

² In spite of the poor condition of the stone, this reading seems fairly secure.

³ Cf. A. Boeckh, *Staatshaushaltung der Athener*³, II, Berlin, 1886, p. 120, on the adjectival sense of θερμαντήριον in what is now *I.G.*, II², 1416, line 2. Boeckh's guess, that Pollux drew the expression from the *Demioprata* (though based on an incorrect placement of the inscription quoted by him), may not be altogether inconceivable in view of our entry in Stele I, 96 (see also below, p. 221, on *Thermaustis*).

⁴ Pollux, X, 66 and 89.

⁵ I have found it elsewhere only in *I.G.*, II², 1416, line 2; 1641, line 37 (partly restored); 1673, line 38 (Eleusis); *I.G.*, IV, 39, lines 18-19; Pollux, X, 66; and Galen, vol. XIII, 663 (ed. Kühn). Kirchner's reading, [θερμαντήρ]ιον ἐλεφάντινον, in *I.G.*, II², 1467, line 23, is hardly credible.

⁶ See Liddell-Scott-Jones, *s.v.*, 1., but with certain reservations. In *I.G.*, I², 395, line 1, and in Xenophon, *Oec.*, III, 19, the word hardly seems to mean anything more specific than a bronze vase. In Aristophanes, Frag. 107 (in Pollux, IX, 69), the text is uncertain. And in Aristophanes, *Ach.*, 1128, the meaning of χαλκίω is disputed: 'cauldron' (Liddell-Scott-Jones), 'lamp' (Dindorf), 'mirror' (Starkie), 'shield' (Rogers, Merry); on the whole, the last seems most likely.

⁷ As in Aristophanes, Frag. 330 (in Pollux, IX, 69), τὸ χαλκίον θερμαίνεται; and Eupolis (in Athenaeus, III, 123 a), τὸ χαλκίον θέρμεινε. In Homer, the generic word χαλκός, 'bronze,' is at times used specifically for a bronze cauldron, e.g., *Il.*, XVIII, 439; *Od.*, VIII, 426 and X, 360. On the word in Stele II, line 246, see Pritchett, Part I, p. 261.

⁸ Cf. *I.G.*, II², 1424 a, line 158; 1425, line 363; 1524, line 251; XI, 2, 147, A, lines 32 and 45;

The form of a chalkion thermanterion is not at all clearly definable. We are inclined to think, naturally, of a wide-mouthed kettle, comparable in a general way to a lebes (see above, pp. 199-200), in which enough water could be heated to warm the bath. The price, especially for a second-hand object in unknown condition, is indicative of a vessel of considerable size, but we must be careful not to make it too large. Based on the probable salvage value of the metal alone, this object can hardly, at the uppermost limit, have weighed more than about 41 pounds,⁹ and there are factors which make it certain that this figure is considerably greater than its actual weight.¹⁰

2. THERMAUSTIS

(I, 97, 98)

Immediately following the chalkion thermanterion of Stele I, 96, the word [θέ]ρμανστis appears in two entries. The prices are lost. The Liddell-Scott-Jones *Lexicon* has no entry for the word in exactly this form, but it does occur at least once elsewhere, in an Attic inscription.¹¹ The meaning, in both inscriptions, is to be sought in a group of variously spelled but closely interrelated words, to which θέρμανστis must belong. These are: ¹² θερμάστιον or θερμάστριον, ¹³ θερμαστίς, ¹⁴ θέρμαστρις or

161, B, line 124; 164, B, line 13; 199, B, lines 76-77; and often. Sometimes χαλκία stand next to kraters and lebetes in the lists. The costs of repairing *chalkia* (probably bronze vessels) are recorded also, e. g., in *I.G.*, XI, 2, 154, A, lines 32 (4 drachmai 3 obols) and 45 (1 drachme); 165, A, line 99 (1 drachme 3 obols).

⁹ Meritt (*Hesperia*, V, 1936, pp. 371-372) cites *I.G.*, I², 371, lines 3-7 (restored) as direct evidence for the prices of copper and tin around 420 B.C. The price for copper is 35 drachmai per talent, for tin, 230 drachmai per talent. At these prices, the largest possible amount of metal to be had for 25 drachmai 2 obols, ignoring the tin and calculating for pure copper, would be 0.72 talent, or about 41 pounds. The price of copper might have been higher or lower in 414 B.C., but only a wild fluctuation could have made any significant difference here.

¹⁰ Most important is the (unknown) amount of tin in the alloy; for, at its much higher price, the tin would, even in modest rates, bring the price up sharply. Secondly, there is the condition of the object; for, if at all usable or repairable, it would probably have sold for more than its value as scrap metal.

¹¹ *I.G.*, II², *Add. et Corr.*, 1428 a, line 287.

¹² For all but θέρμανστis, see Liddell-Scott-Jones, *s.v.*, where the forms in -ανστ- are described (wrongly, we see now) as deviant or erroneous spellings (see also *ibid.*, *s.v.* θερμάστρα, and Herwerden, *Lex. Dial.*, *s.v.* θερμαστ(ρ)ήθεν, where the MSS spellings in -ανστ- are similarly criticized). The inscriptions make it clear that these variations are not the fault of the MS traditions, since they existed already in inscriptions of the fifth and fourth centuries B.C.

¹³ Only in Aeneas Tacticus, XVIII, 6, where the MSS give both spellings; conjecturally, in *I.G.*, II², 1425, line 379, θερμάστρι[a? pl.]; and in *Insc. Délos*, 1417, A, II, line 58, with spelling θερμάστριον.

¹⁴ Only in *I.G.*, II², 1514, line 29; 1515, line 21; 1516, line 8. On the meaning, see below, note 25.

θερμαστρίς,¹⁵ θερμανστis,¹⁶ and θερμανστρίς.¹⁷ The variation in the spelling of these words seems so erratic¹⁸ that there is little prospect of differentiating their meanings according to orthography. In fact, it appears likely that all of the forms in -is are intended for the same *word*, of which θερμάστ(ρ)ιον may be understood as the diminutive.

The meanings of the word θερμα(ν)στ(ρ)is or θερμα(ν)στ(ρ)is, as given in the *Lexicon*¹⁹ and derived from literary sources²⁰ through definition or context, are as follows: I. 1 'Tongs,' 'pliers' or 'pincers';²¹ I. 2 'A violent dance, in which the legs are crossed *tong-fashion*.'²² II 'Spike, clamp.'²³ III 'θερμαντήρ, i.e., a cauldron.'²⁴ In the inscriptions, the context is generally less revealing,²⁵ but the θερμαύστεις

¹⁵ *I.G.*, II², 1414, line 42; *Insc. Délos*, 1415, A, I, line 15, and 1417, B, I, line 12; Aristotle, *Mech.*, 854 a, 24; Pollux, X, 66; *et al.*

¹⁶ Only in our inscription and in *I.G.*, II², *Add. et Corr.*, 1428 a, line 287.

¹⁷ Pollux, IV, 102 and 105, X, 66 and 192 (Eupolis); Athenaeus, XIV, 629 d, 630 a ("Cod. A," Liddell-Scott-Jones; but cf. ed. Kaibel "θερμανστρίς. θανμαστρίς A: corr. Cas[aubon]"). For the spelling, cf. also θερμανύστρα, Kallimachos, *Hymn. Del.*, 144; θερμανστρίξειν, Lucian, *de Salt.*, 34, Kritias, *Frag.* 36 Diels. Compare also θερμαύστ[τ]ρ[α]s (?), *I.G.*, XI, 2, 144, line 19.

¹⁸ The declension varies, too, for the forms in -is: e.g., plural in -εις or -ιδες (so Pollux, IV, 102; cf. genitive -ιδος, Aristotle, *Mech.*, 854, a, 24). See also K. Meisterhans, *Grammatik*³, p. 130, 5; W. Petersen and C. D. Buck, *Reverse Index of Greek Nouns and Adjectives*, Chicago, 1944, p. 18.

¹⁹ Liddell-Scott-Jones, *s.v.* θερμαστρίς or θερμαστρίς.

²⁰ The forms θερμαστís and θερμανστís appear only in inscriptions; see above, notes 14, 16. For the omitted second *rho*, however, cf. Aeneas Tacticus, XVIII, 6, where the MSS have both θερμάστριον (H) and θερμάστιον (M).

²¹ Hesychius, *s.v.* θερμαστρίς: σκεύος παραπλήσιον καρκίνῳ ᾧ χρώνται οἱ χρυσοχοῖ· καὶ ὄρχησις ἔντονος καὶ διάπυρος τάχους ἕνεκα; Aristotle, *Mech.*, 854, a, 24 (Bekker); and, similarly, θερμάστ(ρ)ιον, Aeneas Tacticus, XVIII, 6. Both the restoration and the meaning in *I.G.*, II², 1425, line 379 (above, note 13) are uncertain. Cf. Pritchett, Part II, p. 292.

²² Pollux, IV, 102: ἐκατέριδες δὲ καὶ θερμανστρίδες ἔντονα ὄρχήματα, τὸ μὲν χειρῶν κίνησιν ἀσκοῦν, ἡ δὲ θερμανστρίς ποδηγικόν. Cf. also *id.*, IV, 105; Athenaeus, XIV, 630 a; Hesychius (above, note 21); Lucian, *de Salt.*, 34. Is it, however, really certain that the name of the dance is derived from the meaning, 'tongs,' and not from a comparison of its rapid, fiery pace (Hesychius: ὄρχησις ἔντονος καὶ διάπυρος τάχους ἕνεκα) with water bubbling in a cauldron?

²³ Athenaeus *Mechanicus*, 34, 4.

²⁴ Pollux, X, 66: τραπομένῳ δ' ἐπὶ τὸ πίνειν, ἵνα μὲν τὸ ὕδωρ θερμαίνεται, θερμαντήρες, θερμαστρίς, θερμανστρίς, χαλκία θερμαντήρια, ἐσχαρίδες, λέβητες, λεβητάρια, ἱππολεβήτια, κτλ. Cf. also *id.*, X, 192 (Eupolis) and Septuagint, *III Kings*, VII, 26 (40) and 31 (45).

²⁵ On θερμάστι[a ? pl.], see above, note 13. For θερμαστís (above, note 14) the entry, thrice repeated, reads: χιτωνίσκιον καρτὸν παιδείον ἀν[ε]π[ι]γράφον, παρυφὴν ἔχει θερμ[α]στήν, in lists of garments dedicated to Artemis Brauronia. The sense is obscure; for a suggested interpretation, see E. S. Roberts and E. A. Gardner, *Introduction to Greek Epigraphy*, II, Cambridge, 1905, p. 280 ('a border with dancing figures'). Perhaps, more simply, 'a border with criss-cross ornament'? In *I.G.*, II², 1414, line 42, and in the Delian inscription P. Roussel, *Cultes égyptiennes*, Paris, 1915-1916, p. 220 (= *Insc. Délos*, 1417, A, II, line 58) the meaning, according to the *Lexicon*, 'may be I. 1 or III.' The Delian object, most probably a kettle, was made of iron. In *I.G.*, XI, 2, 144, line 19, the meaning of θερμανστ[τ]ρ[α] is uncertain.

of Stele I may best, from their proximity to the chalkion thermanterion,²⁶ be understood as cauldrons, perhaps of a somewhat different kind (smaller?). In the Attic inscription which contains the only other occurrence of this form,²⁷ the text reads *θερμαύστεις* II, ἡ ἑτέρα ἄλυστιν ἔχει; the fact that one of these objects has a chain would better suit a kettle than a pair of tongs. In both these inscriptions, then, *θήρμανστις* may be defined as 'probably a cauldron of some kind,' but we have no indications as to size or other details of their appearance.

3. LOUTERION

(II, 233-234)

The *λουτ[ήριον]* [λ]ίθ[ινον] follows several entries of stone and pottery *kardopoi* (see below, pp. 239-241). The price is lost, and this badly mutilated line is followed by a lacuna.

The words *λουτήριον* and *λουτήρ*, which are equated in meaning by Pollux²⁸ and Hesychius,²⁹ receive very sketchy treatment in the *Lexicon*.³⁰

The former, *λουτήριον*, seems strange and archaic to Pollux,³¹ who illustrates its use only from fifth and fourth-century writers.³² The word does occur, however, in inscriptions ranging from the fourth to the second century B.C.,³³ and in Pausanias' account of the painting by Polygnotos in the Lesche of the Knidians at Delphi.³⁴ The word *λουτήρ*, on the other hand, in spite of its being etymologically the more primitive

²⁶ So also in Pollux, X, 66. Although Pollux does not say so, it seems at least possible that he was drawing here from the *Demioprata* (cf. above, p. 218 note 3, on Chalkion thermanterion).

²⁷ Cf. above, note 16; note that the particular spelling is likely to be significant.

²⁸ Pollux, VII, 167; X, 46; and cf. IV, 183 and X, 78.

²⁹ Hesychius, s.v. *λουτήρια*· *λουτήρα*(ς).

³⁰ Liddell-Scott-Jones, s.vv. *λουτήρ*, *λουτήριον*. Defined as a 'washing or bathing-tub'; no references to Pollux or Pausanias; no distinction of meanings between or within these words. Better, Stephanus, *Thes.*, s.vv.

³¹ Note especially the hesitant language of X, 46 and 79; and cf. VII, 167: *Αἰσχύλος δ' ἂν εἰοίκοι τὰ βαλανεῖα λουτήρια λέγειν*.

³² Quoting Aeschylus in VII, 167 and in X, 46, with the meaning surely misconstrued; Anaxilas in VII, 167; Antiphanes in IV, 83 and X, 46.

³³ E.g., *I.G.*, II², 1425, line 371; *Add. et Corr.*, 1424 a, line 273; cf. *I.G.*, IV, 39, line 18. *χαλκίον ἐγλουτήριον* (Aegina) and *Délos*, XI, p. 123, line 81, *λουτήριον λίθινον*.

³⁴ Pausanias, X, 26, 9. Other occurrences of the word are less helpful toward defining it. In Epigenes (in Athenaeus, XI, 486 c), where the *louterion* is classed as a kind of cup, we must take this application of the word to be derivative, designating a cup shaped like a louterion; or perhaps simply as comic hyperbole. In *Tab. Heracl.*, 1, line 184 (*I.G.*, XIV, 645; Collitz, *G.D.I.*, III:2, 4629; R. Dareste, B. Haussoulhier, and S. Reinach, *Recueil des inscr. jurid. grecques*, Paris, 1891-98, pp. 193 ff., XII), the word *λουτήριον* refers to a family emblem, and gives no help toward defining the object. Cf. also *British Museum Papyri*, II, no. 193, line 211; and on *C.I.G.*, III, 3847, b, see below, note 36.

form, is not attested before the Hellenistic period,³⁵ and even there it develops a new, specialized meaning³⁶ not originally applied to λουτήριον. It seems probable, therefore, that λουτήριον was the form in regular use during the fifth and fourth centuries B.C.³⁷

Even in the fragmentary state of the text, λουτήριον may be taken as a safe restoration. We have seen that λουτήρ is unlikely. Furthermore, we are told by Pollux (X, 46) that the *Demio-prata* listed a λουτήριον καὶ ὑπόστατον. Even if this is not the exact source to which his reference applies, his citation bears witness to the existence, somewhere in the Stelai, of this form of the word.³⁸ His mention, from the *Demio-prata*, of a support or base (ὑπόστατον) in conjunction with the louterion is repeated in another passage (X, 78), and the two words appear frequently conjoined in other places.³⁹ The form ὑπόστατον is not, in fact, extant anywhere in the Stelai, and it is not quite what we should expect (ὑποσταθμόν is used, in conjunction with kardopoi; see below, pp. 239-240),⁴⁰ but Pollux may have been quoting (directly or indirectly) from a passage now lost to us, conceivably the first line in the lacuna which follows our entry.⁴¹

A louterion, in any case, is something supported by a stand or pedestal, used for

³⁵ Kallixenos, in Athenaeus, V, 199 c; Moschio, in Athenaeus, V, 207 f; Septuagint, *Exodus*, XXX, 18, *et al.*; and in many inscriptions mostly of Roman date (see below, note 36).

³⁶ Cf. Liddell-Scott-Jones, *Addenda et Corrigenda*, p. 2088: "s.v. λουτήρ, add: used for oil, Dittenberger, *O.G.I.*, 479, 10 (Dorylaeum)." Indeed, this is by far the commonest meaning of λουτήρ in the inscriptions, including two which are erroneously cited in the text under the main heading ('washing or bathing-tub'): *I.G.R.R.*, IV, 454, line 10 (Pergamon) ἀλείφοντα ἐγ λουτήρων . . . ἐκ τῶν ιδίων, and *S.E.G.*, IV, 263, line 10 (Stratonicea) τιθέντα τὸ ἔλαιον ἐλκουστόν ἐγ λουτ[ή]ρων. Oil is also supplied in *louteres*, usually at the expense of the gymnasiarch, in the following inscriptions: *C.I.G.*, II, 3613, lines 12-13 and 3617, lines 11-12 (Assos); *Ath. Mitt.*, XVI, 1891, p. 145 (Kyzikos); *I.G.*, XII, 1, 382, line 6 (Lindos); and *I.G.R.R.*, IV, 555 (Ancyra). The word λουτήριον is used in the same sense in *C.I.G.*, III, 3847, b. Many other inscriptions express the same idea in different words; see Dittenberger, *O.G.I.*, 479, line 10 (Vol. II, pp. 83-84, notes 10-11), cited above, at the beginning of this note (the same inscription, *I.G.R.R.*, IV, 522). This same duty of gymnasiarchs is also commemorated on coins showing a picture of the basin; cf. Anson, *Numismata Graeca*, 358-359 (Syedra, Cilicia), 360 (Anazarbus, Cilicia: gymnasiarch beside basin), and perhaps 357 (Pergamon: here, rather, a water basin?).

³⁷ Compare θερμαντήρ-θερμαντήριον (above, p. 218).

³⁸ In two places he makes explicit acknowledgment of this source: X, 46 and 79.

³⁹ E. g., in *I.G.*, II², 1425, line 371; *Add. et Corr.*, 1424 a, line 273; and cf. Pausanias, X, 26, 9. The word ὑπόστατον is often linked with περιρραντήριον (on which see further below, p. 225): e.g., *I.G.*, II², 1544, line 66; 1639, line 6; *I.G.*, XI, 2, 161, B, line 126. For kraters with ὑπόστατα, cf. *I.G.*, II², 1640, lines 19-20, 24; *et al.*

⁴⁰ Pollux says (X, 78) that ὑπόστατον is the term generally used in the *Demio-prata* for a support of any kind. But, although this word is found often elsewhere in Attic inscriptions, the only form that is extant in the Attic Stelai is ὑποσταθμόν (II, lines 32-34, 35-37).

⁴¹ It is also possible that Pollux, or his source, misquoted from the Stelai. On misquotations of the Stelai in Pollux, see A. Pippin, Pritchett, Part II, pp. 324-327.

bathing or washing;⁴² here, it is made of stone. It is generally assumed,⁴³ no doubt rightly, that this is the correct name for the familiar basin-on-a-pedestal (or 'laver,' as it is often called) which appears with great frequency in red-figured vase-paintings of the fifth and fourth centuries B.C., especially in scenes of washing and bathing.⁴⁴ Usually women or athletes are present, often merely standing by,⁴⁵ but sometimes washing,⁴⁶ or bathing,⁴⁷ about to bathe,⁴⁸ or just finished with their bath.⁴⁹ Women also wash their hair near by, with water that is dipped out and poured over their heads.⁵⁰ The term 'bathing,' however, requires some qualification. In its use, the louterion stands between the shower-bath at the fountain (shown often in later black-figure vase-paintings)⁵¹ and the regular tub-bath in which the bather sits inside the tub (see *Pyelos*, below, pp. 252-254).⁵² In other words, the louterion served mainly

⁴² See especially Pollux, *loc. cit.*, above, note 28.

⁴³ E.g., Kenner, *Jahresh.*, XXIX, 1935, pp. 137-139; P. Hartwig, *Die griechischen Meisterschalen*, Stuttgart, 1893, p. 599; cf. Pottier, *Dictionnaire*, III, p. 1317, *s.v.* *Louter*, *Louterion*. *Louter*, for the reasons given, is less apt; and *loutron* (sometimes misapplied by modern writers) is wholly unacceptable (see Liddell-Scott-Jones, *s.v.*). On *perirrhanterion*, see below, pp. 225-226.

⁴⁴ These are very numerous, and a complete list would run into the hundreds. Samplings are given in Hartwig, *Meisterschalen*, p. 599, note 1; Sudhoff, *Aus dem antiken Badewesen*, I, Berlin, 1910; *Délos*, XVIII, Paris, 1938, p. 75, note 4; *Olynthus*, XII, pp. 246-247, note 10. In this part of the present section I have been helped much by the unpublished M. A. Thesis of Mr. Allan Dean McKenzie, *Representations of the Louterion in Attic Vase-Paintings*, University of California, Berkeley, 1955.

⁴⁵ E.g., *A.R.V.*, p. 847, no. 14 (Nikias Painter); *C.V.A.*, Lecce, I, IV D r, pl. 2, 3 (Apulian); etc.

⁴⁶ Figures are most often shown with both hands plunged into the basin, e.g., *A.R.V.*, p. 76, no. 1 (Pedieus Painter); p. 261, no. 25 (Briseis Painter); p. 290, no. 173 (Douris).

⁴⁷ In these scenes, washing and bathing are of course much the same thing. Where nude female figures are shown, it might generally be argued that they are bathing, e.g., on the Troilos Painter's stamnos in Florence, *A.R.V.*, p. 190, no. 8; of males, not necessarily so.

⁴⁸ E.g. (to cite only a few), *A.R.V.*, p. 126, no. 69 (Kleophrades Painter); p. 549, nos. 1 and 3, p. 550, no. 18, and others (Boot Painter); p. 695, no. 1 (Group of Polygnotos); p. 745, nos. 62-65 (Washing Painter); and on many Apulian vases. On a kylix in Boston by the Euergides Painter (*A.R.V.*, p. 64, no. 92), a boy dips hot water (?) from a low bowl (a chalkion thermanterion? cf. above, pp. 218-219; or a podanipter), meanwhile testing with his free right hand the temperature of the water in the louterion.

⁴⁹ Such scenes are hard to separate from the "stand-by" scenes already noted (above, note 45); but cf. e.g. Lenormant and de Witte, IV, pl. 30 (Apulian).

⁵⁰ E.g., Lenormant and de Witte, IV, pl. 21. Cf. the Etruscan mirror, Bossert and Zschietzschmann, fig. 138.

⁵¹ E.g., on the b.-f. hydria in Leyden by the Antimenes Painter (*Development*, pl. 38, 1-2; *A.B.V.*, p. 266, no. 1) and on Berlin 1843; K. Neugebauer, *Führer durch das Antiquarium*, II, *Vasen*, Berlin, 1932, pl. 34; Bossert and Zschietzschmann, fig. 137; and on the b.-f. olpe, Lenormant and de Witte, IV, pl. 17.

⁵² Sometimes the bather is seen actually bathing inside the basin, e.g., on the Apulian hydria, *C.V.A.*, Syracuse, I, IV E, pl. 11, 1; or seated on the edge of the louterion, as in *C.V.A.*, Florence, I, III I, pl. E, 5 (Attic); but these cases are exceptional. Erotes also often stand (or hover) on

for a 'sponge-bath,' and indeed there are scenes in which the bather is shown using the sponge near a louterion.⁵³

In the shape of these louteria shown on vases, there is great variety of detail, but all examples conform more or less closely to the same general pattern: a broad, open basin supported by a columnar pedestal with spreading foot, sometimes mounted on a rectangular plinth, in short, something very much like our bird-bath.⁵⁴ The basin may be deep or shallow, the shaft fat or thin, the foot narrow or spreading, in many degrees and combinations. Ornamentation may be lavish, sparse, or altogether lacking. The cylindrical form of the shaft often prompts "columnar" ornamentation: vertical fluting, horizontal moldings, scrolls suggestive of Ionic capitals. As yet, no satisfactory scheme of typological sequence has been worked out for the louteria of the vase-paintings, although something of the kind has been attempted for the actual extant specimens.⁵⁵

The louteria of the vase-paintings usually look as if they were made of stone, like the one listed in our inscription. Many stone basins of this kind have in fact been found.⁵⁶ There is little doubt that those found in private dwellings, as at Olynthos, Delos, and elsewhere, should be called louteria. For those found in temple areas,⁵⁷ it

the rims of the basins in South Italian r.-f., e.g., *C.V.A.*, Petit-Palais, pl. 37, no. 333; A. D. Trendall, *Paestan Pottery*, London, 1936, pl. 13, a, but this is not quite the same as bathing. On the Attic fourth-century pelike, Leningrad 15,449, Schefold, *Untersuch.* no. 494; H. Metzger, *Les représentations dans la céramique attique du IV^e siècle*, Paris, 1951, p. 362, pl. 43, right, the Eros seems actually to be resting inside the basin.

⁵³ Lenormant and de Witte, *op. cit.*, IV, pl. 21. The sponge is of course present in many bathing scenes, and it was a regular part of an athlete's equipment, together with the aryballos and the strigil.

⁵⁴ The birds used them, too, e.g., *A.R.V.*, p. 745, no. 62 (Washing Painter); and often, especially in Apulian r.-f.

⁵⁵ See especially E. Pernice, *Hellenistische Kunst in Pompeji*, V, Berlin, 1932, pp. 38-54. But, since there are relatively few well preserved examples in stone that can be dated before the end of the fifth century B.C., any conscientious attempt to deal with "development" in the sixth and fifth centuries would have to lean heavily on the vase-paintings for evidence. The great variety of forms found here in the fifth century indicates that this classification would not be a simple task. A good beginning has been made by McKenzie (see above, note 44), but much more needs to be done.

⁵⁶ Cf. *Olynthus*, XII, pp. 246-247; *Délos*, XVIII, 1938, pp. 75-76; H. A. Thompson, *Hesperia*, Suppl. IV, 1940, pp. 142-143; A. E. Raubitschek, *Dedications from the Athenian Akropolis*, Cambridge, Mass., 1949, pp. 370-412; and the references cited in these works. Something should be added to the statement that few two-piece louteria were found at Delos (*loc. cit.*). Actually, there are many *pedestals*, found apart from religious areas, which look exactly like those shown in the vase-paintings. These differ from the Olynthian specimens in one important feature; the shafts have, in their tops, square mortises of the expected kind. Fragments of basins are also fairly common, and two or three nearly complete examples are still lying in the houses in which they were found. One complete pedestaled basin, in the Museum, has a very shallow bowl, like some which appear in the vase-paintings, tenon under basin, matching mortise in top of pedestal. The basin rests very firmly in place. Thus the Delian louteria, though primarily of Hellenistic date, clearly follow the established tradition in their form.

⁵⁷ E.g., at Epidauros, cf. Blinkenberg, *Ath. Mitt.*, XXIII, 1898, pp. 14-23; at Aegina, A.

has been argued that the correct name should be *perirrhanterion*, or 'lustral basin';⁵⁸ but denied, too, on the ground that the basins found in sacred precincts are far too numerous for all of them to have served so specialized a purpose.⁵⁹ Indeed it would seem, from the complete impossibility of distinguishing the one from the other on the basis of shape, that *louterion* and *perirrhanterion* may often be exactly the same kind of basin, differentiated only by their use. Some (though surely not all) of the basins found in temple areas could have been used as *perirrhanteria*,⁶⁰ and the basins shown in vase-paintings beside a deity or near the entrance to a temple might have some claim to this designation.⁶¹ But, when actual specimens are concerned, apart from a few unusually splendid pieces, the form of the object does not clearly determine whether it should be called *louterion* or *perirrhanterion*. The problem applies also to basins of terracotta having a *louterion*-like shape, to which the name *perirrhanterion* must sometimes apply.⁶²

Some of these terracotta *louteria* have been found in circumstances which

Furtwängler, *Aegina*, Munich, 1906, pp. 164-166, pls. 65-67; at Athens (Acropolis) Raubitschek, *loc. cit.*

⁵⁸ Cf. Liddell-Scott-Jones, *s.v.* *περιρραντήριον* (use with caution); Ziehen, *R.E.*, XIX, 1937, cols. 856-857, *s.v.* *περιρραντήριον* (where the literary sources are better handled than the archaeological evidence); Raubitschek, *op. cit.*, p. 370; H. von Gaertringen, *I.G.*, I², p. 221, on nos. 739-759.

⁵⁹ Blinkenberg, *op. cit.*, p. 16; H. Kenner, *Jahresh.* XXIX, 1935, pp. 138-139, No. 6. Blinkenberg objects also that the heavy one-piece specimens found in considerable number at Epidauros (with dedicatory inscriptions) could not have been fine enough to serve as *perirrhanteria*.

⁶⁰ *Perirrhanteria* are mentioned fairly often in temple inventories, e.g., *I.G.*, II², 1544, line 66; 1639, line 6; 1640, line 26; *I.G.*, XI, 2, 199, B, line 78. They were *dedicated* objects; cf. Herodotos, I, 51; *I.G.*, XII, 8, 365; Fränkel, *Inschriften von Pergamon*, no. 336, line 7; probably also *I.G.*, XI, 2, 161, B, line 126. Dedications, too, have a way of multiplying the number of available objects beyond any conceivable need. In such a case, even the superfluous examples, if intended for lustral basins, would still no doubt have been called *perirrhanteria*. But we have no way of knowing in which instances that was true; *louteria* also are found in temple inventories.

⁶¹ Cf. *A.R.V.*, p. 443, no. 5 ("Apollo at laver"); F.-R., text, III, p. 35 (Hera; Apulian); and the Paestan Phlyax krater, F.-R., pl. 110. Perhaps also meant for *perirrhanteria* are the basins which stand near buildings and are dipped into by passing persons about to enter the buildings (temples?), e.g., *A.R.V.*, p. 375, no. 30 (Paris Gigantomachy Painter; Bulas, in *C.V.A.*, calls the building a "Gymnasium"); *A.R.V.*, p. 368, no. 92 (Pan Painter). Compare also the heavily robed figure with hand over a basin, *A.R.V.*, p. 113, no. 8 (Painter of Berlin 2268), where no building is shown, but the figure could hardly be washing or bathing; and the b.-f. fragment, B. Graef, *Die antiken Vasen von der Akropolis zu Athen*, I, Berlin, 1909, pl. 54, 887, where a hand holds a branch over the basin. Kenner, *Jahresh.*, XXIX, 1935, pp. 142-143, says that the basins on many South Italian vases which appear beside naiskoi, in which a figure stands, record a cult of the dead in which the *louterion* figures significantly, citing as evidence the widespread practice in South Italy of using *louteria* as grave markers.

⁶² Cf. S. Weinberg, *Corinth*, VII, i, *The Geometric and Orientalizing Pottery*, Cambridge, Mass., 1943, p. 50, pl. 25, no. 180 (pedestal). Weinberg identifies this example as a *perirrhanterion*, and cites a number of parallels in support of this proposal, but his language is suitably cautious. On the other hand, some that were found in the Athenian Agora certainly were used as *perirrhanteria*.

guarantee their use as wash-basins,⁶³ although of course such pedestaled basins must have been used also for a variety of purposes, both sacred and profane.⁶⁴ Examples of louteria are also known to have existed in bronze,⁶⁵ and in combinations of different materials, formed in a way which has suggested an originally haphazard association of a basin and a stand intended for distinct uses.⁶⁶ This situation raises a number of questions concerning the origin of the louterion.

Blinkenberg⁶⁷ has in fact advanced the theory that the classic form of the louterion came into existence through the arbitrary association of two originally distinct elements, and the cases of the tripod lebes and the lebes with pedestal stand come at once to mind as being perhaps comparable. Nevertheless, the so-called perirrhanteria of terracotta, which were made in one piece, go back at least to the seventh century B.C.,⁶⁸ leaving hardly any room for priority of Greek examples in stone.⁶⁹ There is, however, another consideration which might offer some help. It seems highly probable that the louterion, the use of which as a wash-basin is well authenticated from the late sixth century onward, had a logical predecessor in the splash-basins which are often represented under fountain-spouts in black-figure vase-paintings.⁷⁰

⁶³ Especially those found at Olynthos, *Olynthus*, VIII, p. 317 and note 1, p. 320; XII, p. 55; XIII, p. 434.

⁶⁴ E.g., M. Z. Pease, *Hesperia*, VI, 1937, p. 297: 'kneading troughs'; but see above, note 62.

⁶⁵ *I.G.*, II², *Add. et Corr.*, 1424, a, line 273; cf. *I.G.*, IV, 39, line 18. Cf. the perirrhanteria of gold and silver (Herodotos, I, 51) and of bronze (*I.G.*, XI, 2, 161, B, line 26 and 199, B, line 78; perhaps also *I.G.*, II², 1640, line 26); one example, listed in *I.G.*, II², 1639, line 6, had an iron pedestal.

⁶⁶ Pausanias, IX, 26, 9 (bronze basin on a stone pedestal); and see end of note 39. The louterion published by Raubitschek, *op. cit.*, pp. 400 f., no. 372, is a one-piece object, the basin part roughly picked out, perhaps, as Raubitschek suggests, to accommodate a bronze basin. In the vase-paintings, some of the bowls appear to be quite separate from their stands, e.g., on the Apulian vases *C.V.A.*, Lecce, II, IV Dr, pl. 12,8; *C.V.A.*, Taranto, I, IV Br, pl. 6, 1; Lenormant and de Witte, IV, pl. 15.

⁶⁷ Blinkenberg, *Ath. Mitt.*, XXIII, 1898, p. 16.

⁶⁸ See above, note 62.

⁶⁹ Raubitschek, *op. cit.*, p. 373, supposes that the elaborate type with caryatid figures supporting the basin must have had an eastern origin. So also do Kenner, *Jahresh.*, XXIX, 1935, pp. 140 f., and F. Matz, *Geschichte der griechischen Kunst*, I, Frankfurt am Main, 1950, p. 382 and p. 526, note 444. The finest and largest of these is the seventh-century example recently found at the Isthmian Sanctuary of Poseidon (Broneer, *Hesperia*, XXVI, 1957, pp. 24-27, pls. 10 and 11, a). This type is of course a special case, in which the supporting figures are mainly in question. On the other hand, there is nothing inherently improbable in the thought that the basic form of the louterion may be of Asiatic origin. Cf., e.g., the pedestaled bowls from Level III (third millennium B.C.?) at Alaca Hüyük, *Arch. Anz.*, 1941, col. 265, fig. 4; and there must be many others.

⁷⁰ They appear most often in scenes of the ambush of Troilos (though not present on the François Vase). A few examples should suffice to show, despite their wide variety of details, the essential similarity of these objects. CORINTHIAN: bottle by Timonidas, Pfuhl, III, fig. 174. ATTIC: Siana kylix in New York by the "C" Painter, *C.V.A.*, Metropolitan Museum, II, pl. 2,2 (*A.B.V.*, p. 51, no. 4); Acropolis fragment, Graef, I, pl. 85, no. 2115; b-f. hydria, New York 4.5.11.2 (*A.B.V.*, p. 85, no. 2, Painter of London B 76, and p. 683); two ovoid neck-amphoras, one

These objects, though of somewhat varied form, have essentially the shape of a louterion. The change in bathing habits which came about with an increase in the density of population may be reflected in the fact that representations of shower-bathing in a fountain house seem not to endure beyond the archaic period.⁷¹ This fact may indicate a change in custom which would naturally have led to the shifting of the basins from the fountain house to the well-side, where they are shown in a number of red-figure vase-paintings.⁷² In this way, the louteria of the late archaic and subsequent periods might be explained as descendants of the fountain splash-basins. This proposal still does not solve the problem of ultimate origin, but it does bring into account a considerable amount of early evidence for the form. Some, at least, of the splash-basins would tend to support Blinkenberg's theory of originally separate basin and stand for the louterion.

The idea of separateness, or two-piece construction, also has direct relevance to the entry in our inscription. Separateness of basin and pedestal is in fact either stated or implied in most of the sources which mention louteria,⁷³ and most extant examples of stone louteria were actually made in two pieces, a basin provided with a tenon underneath and a pedestal with a mortise in the top of the shaft.⁷⁴ Sometimes the positions of mortise and tenon were reversed,⁷⁵ but this must have made the basin more fragile. In most cases, the two parts were no doubt simply fitted together, but

in Munich (E. Buschor, *Griechische Vasen*, Munich, 1940, p. 107, fig. 24; *A.B.V.*, p. 95, no. 4, "Tyrrhenian Group"), the other in the British Museum (No. 97.7-21.2, *C.V.A.*, III, III He, pl. 35, 1). CHALCIDIAN: a neck-amphora in Rome, Villa Giulia (*Studi Etruschi*, XXIV, 1955-56, p. 147, pl. IV, a); cf. also (not Troilos), Phineus kylix (Rumpf, *Chalkidische Vasen*, pls. 40-42). ETRUSCAN wall-painting: Tomba dei Tori (Giglioli, *L'arte etrusca*, pl. 107).

⁷¹ See above, note 51.

⁷² See above, p. 187 and notes 5 and 6. Even where the well is not shown, its nearness may easily be inferred. Cf. Caskey and Beazley, II, p. 35.

⁷³ Cf. above, p. 222.

⁷⁴ Tenons are regularly present on the basins found at Olynthos (*Olynthus*, VIII, p. 319) and at Athens (Raubitschek, *op. cit.*, p. 373); and often elsewhere. On the louteria at Delos, see above, note 56. One-piece examples were harder to carve, and were wasteful of material. Where they do occur (as at Epidauros, Blinkenberg, *Ath. Mitt.*, XXIII, 1898, pp. 14-23), they are heavier and cruder than the usual kind. It appears likely that the big monolithic basins which were sometimes found near well-heads in private houses at Delos were mortars, not louteria as Déonna suggests (*Délos*, XVIII, p. 88, pl. 32, nos. 229, 230, 232). These are roughly worked outside, and worn smooth inside in a deep conical hollow. Their form agrees better with that of other objects identified as mortars (cf. below, pp. 236-238).

⁷⁵ Mortised basin: Raubitschek, *op. cit.*, p. 406, no. 308. This case, though exceptional, may explain how the numerous pedestals without mortises which were found at Olynthos were fitted into their basins. The basin may simply have had a shallow mortise adapted to the form and size of the pedestal shaft at its top, though admittedly no such basins have been found at Olynthos. In actual specimens of pedestals, however, the area of the shaft's top seems altogether inadequate to have supported with any security a basin that merely rested flat on it. Those found elsewhere, e.g. at Delos, regularly have mortised pedestals.

sometimes the joint was made more secure by filling it with molten lead.⁷⁶ In any event, two-piece construction was the rule, and this fact, together with Pollux's⁷⁷ ascription to the *Demioprata* of a *louterion kai hypostaton*, must lead us to ask whether the entry *louterion lithinon* is meant to include both parts of the object, or whether the support was listed and sold separately. The analogy of the *kardopoi*,⁷⁸ which were probably similar in form and construction, and for which the bowl and stand were listed and sold as distinct items, suggests that the meaning of this entry, too,—and of Pollux's statement—is that the *louterion* and its stand were separately listed.⁷⁹

For the form of our *louterion*, we may perhaps suppose something like the handsome stone example found at Olynthos, comfortably high and broad, with its fluted shaft and its painted decoration on the mouldings.⁸⁰

It is true that in the vase-paintings, where representations of *louteria* abound,⁸¹ the archaic and early classical representations show, in general, the most impressive shapes.⁸² Those of the later fifth century tend to be somewhat lower, and simpler.⁸³ On the other hand, there seems to be a return to the taller and more elegant forms in the fourth century, in both Attic and Italiote red-figure.⁸⁴ Furthermore the types of *louteria* represented in vase-paintings may more often be attributable to mere fashion of rendering on the part of the vase-painters than to actual changes in the form of the object. The persistence of the taller, elegant form in actual *louteria*, as at Olynthos, Delos, and Pompeii, also gives us some encouragement to believe that this finer type persisted through the last decades of the fifth century. Our text may still, therefore, refer to one of these large, carefully worked *louteria*.

⁷⁶ A channel for pouring the lead was cut into the basin; see Raubitschek, *op. cit.*, p. 406, no. 378; and *Délos*, XI, p. 121, fig. 85.

⁷⁷ Pollux, X, 46.

⁷⁸ See below, pp. 239-241.

⁷⁹ On the possible relationship of this entry to Pollux, X, 46, see above, p. 222. Pedestals also were sometimes used separately for seats (probably *ad hoc*); cf. Beazley, *E.V.P.*, pp. 67, 135.

⁸⁰ *Olynthus*, XII, pp. 246-247, pls. 218-220 (the last showing the painted details in color); also *A.J.A.*, XLIII, 1939, pp. 60-61, fig. 14; top diam. 0.90 m.; H. not stated, but looks to be about 0.75 m., or close to 30 inches.

⁸¹ See above, note 44.

⁸² Cf., e.g., the very elegant specimen with "Ionic" shaft, *A.R.V.*, p. 70 β, (E. Gerhard, *Auserlesene Vasenbilder*, Berlin, 1840-58, pl. 272, 5-6); or *A.R.V.*, p. 290, no. 173 (Douris; "Doric" shaft), for the typically refined appearance of most archaic examples. These continue into the early classical period; but another common type, already seen in the work of the Briseis Painter (*A.R.V.*, p. 268, no. 25) and the Kleophrades Painter (*A.R.V.*, p. 126, no. 69), but continuing into that of the Boot Painter (e.g., *A.R.V.*, p. 549, no. 3), the Deepdene Painter (*A.R.V.*, p. 327, no. 21), and others, is very heavy and deep-bowled by contrast.

⁸³ E.g., in *A.R.V.*, p. 743, nos. 62-64 (Washing Painter); *A.R.V.*, p. 840, no. 85 (Manner of the Meidias Painter).

⁸⁴ E.g., Attic: Schefold, *Untersuch.*, p. 3, no. 10 (Bossert and Zschietzschmann, fig. 143, top), and fig. 39, no. 484; *C.V.A.*, Robinson Collection 3, pls. 14 and 15, 1; Italiote: *C.V.A.*, Taranto 2, IV Dr, pls. 28, 29, 3; Lenormant and de Witte, IV, pls. 13, 19, etc.

4. ESCHARA

(III, 9)

The word ἐσχάρα⁸⁵ first appears in Homer, where it usually refers to the domestic hearth, in a sense equivalent to ἑστία.⁸⁶ In classical times, however, the eschara was a portable coal-pan or brazier, used both to provide warmth and for cooking;⁸⁷ also, and perhaps more often, it signifies a sacrificial fire or hearth, and, by extension, an altar.⁸⁸ In the one entry in the Stelai, ἐσχά[ρα] (III, line 9), the end of the word is lost, hence the number is undetermined; the total price is two obols. Since this is presumably a portable, secular object, the meaning 'brazier' seems certain here. In view of the price (two obols or less), the material must be terracotta.

Braziers have been found in all parts of the Mediterranean world, dating from the Bronze Age onward.⁸⁹ Those of the fifth century B.C. are well known from specimens found in the Athenian Agora and at Corinth.⁹⁰ Fourth-century examples, similar to certain of these, are best represented by the finds at Olynthos.⁹¹ Hellenistic specimens, of various (and usually more elaborate) types, were widely distributed. One favorite kind, which is found at many Greek sites, is believed to have emanated mainly from a single place of manufacture.⁹² In the Roman period, both cooking

⁸⁵ Ἑσχάρα: Liddell-Scott-Jones, *s.v.* ἐσχάρα, ἐσχάρις, ἐσχάριον, ἐσχάριδιον; P. Gachon, *Dictionnaire*, II, pp. 1194-1196, *s.v.* Focus; Reisch, *R.E.*, VI, 1909, cols. 614-617, *s.v.* Eschara.

⁸⁶ Cf. Reisch, *loc. cit.*; Hesychius, *s.v.*

⁸⁷ E.g., Aristophanes, *Ach.*, 888, and *Vesp.*, 938.

⁸⁸ On this meaning, see especially *Olynthus*, XII, pp. 201-202, note 57, p. 459, and the references there cited.

⁸⁹ Bronze Age braziers exist in a variety of forms, no doubt indicative of various uses. There is no clear line of continuity from any of these types to those of historic Greece, but it can be assumed that the production and use of objects having the same or a similar purpose was unbroken.

⁹⁰ Cf. C. Boulter, *Hesperia*, XXII, 1953, pp. 96-97, pl. 36, nos. 121-124, and other braziers there mentioned.

⁹¹ See especially *Olynthus*, XIII, pp. 407, 411, nos. 1023-1024, pl. 247 (for no. 1024 also *Olynthus*, XII, pp. 4-5, pl. 4, 1). For the fine bronze brazier of similar shape which was found at Olynthos, cf. *Olynthus*, X, pp. 181-182, pls. 37-38, no. 570 (also *Olynthus*, VIII, p. 186, pls. 52, 1 and 102, 2). Another example, found at Pella and published in *Πρακτικά*, 1914, pp. 144 f., fig. 11, is smaller and less well preserved. The metal *escharai* which are listed in temple inventories were, to judge from the descriptive adjectives sometimes applied to them, of this "open-pan" type; cf. *I.G.*, II², 1416, line 8 (bronze); XI, 2, 161, B, line 129 (ἐσχάρα σιδηρά); *ibid.*, line 124 (ἐσχάρα πυρκαϊός repeated in later lists in the series) and *ibid.*, line 17 (ἐσχαρίδιον ὑπόστατον ἔχον); etc.

⁹² Examples of this particular Hellenistic type are common in the Athenian Agora; cf. H. A. Thompson, *Hesperia*, III, 1934, pp. 391-392, figs. 79-80, no. D 76; pp. 420-421, figs. 108-109, no. E 150; and pp. 466-468. For the type, see also *Jahrb.*, V, 1890, pp. 118-141; *Arch. Anz.*, 1890, cols. 166-167 (Conze); VI, 1891, cols. 110-124 (Furtwängler); XII, 1897, cols. 160-167 (Winter); *Röm. Mitt.*, X, 1895, pp. 38-46 (Mau); *B.C.H.*, XXIX, 1905, pp. 373-404 (Mayence); and (a different kind) *B.C.H.*, LVIII, 1934, pp. 203-217 (Bakalakis).

and heating braziers, known chiefly from bronze specimens, achieved an even greater variety and degree of elaboration.⁹³

Fifth-century terracotta braziers, which are our chief concern here, occur in two principal types. The first (Pl. 49, c)⁹⁴ is the so-called "shallow brazier," designed mainly for broiling or grilling, as is shown by the frequent presence of spit-racks, and by the flat, unperforated bowl.⁹⁵ The other is the "deep brazier" (Pl. 49, b),⁹⁶ in the form of a ventilated fire box, designed to accommodate a pot which was placed on top.⁹⁷ There are also related, but often larger, objects, such as the "barrel-shaped cooking stand,"⁹⁸ which were used for cookery, but which, because they used brush-wood as fuel, rather than charcoal as the ancient sources generally seem to demand,⁹⁹ do not qualify properly as *escharai*.¹⁰⁰

Either of the two kinds of brazier, however, could appropriately be called an *ἑσχάρα*, and both may well have been so named. One is inclined to favor the "shallow brazier" (known not only in Athens and at Corinth in the fifth century, but also represented by excellent examples in fourth-century Olynthos),¹⁰¹ not merely under

⁹³ The Hellenistic and Roman types (chiefly the latter) are discussed by P. Gachon, *loc. cit.*

⁹⁴ Agora P 21956. C. Boulter, *Hesperia*, XXII, 1953, pl. 36, p. 96, no. 121. Other examples (cited by Boulter, *loc. cit.*): *Hesperia*, IV, 1935, pp. 514-515, no. 82, fig. 27; VI, 1937, pp. 305-306, no. 212, fig. 36 (from Corinth); and XVIII, 1949, p. 355, no. 99, pl. 97. Cf. the smaller-sized objects of like shape, VI, 1937, p. 50, i, fig. 33; and XVIII, 1949, p. 336, no. 100, pl. 97. Still others, unpublished, are in the Agora Museum.

⁹⁵ A separate grill (cf. below, p. 232, on *γαστρόπτης*) could, if desired, easily have been used in place of the spits.

⁹⁶ Agora P 21958. Boulter, *op. cit.*, pl. 36, p. 97, no. 123. Other examples (cited by Boulter, *loc. cit.*): *Hesperia*, IV, 1935, pp. 514-515, no. 83, fig. 27; VI, 1937, pp. 305-306, no. 213, fig. 36 (from Corinth). Others in Agora Museum.

⁹⁷ In this respect it seems to be the logical forerunner of the Hellenistic type (above, note 92), which was designed expressly to support a pot. The new features are: the (usually rather tall) foot, with a large vent in one side; the holes in the bottom of the fire box, none on the side; and the moulded supports for the pot. Matching specimens of chytrai and tall braziers of this type have been found in the Athenian Agora (P 2393, P 3421: cf. H. A. Thompson, *Hesperia*, III, 1934, pp. 420-421, figs. 108-109, and pp. 466-468). Functionally, this type served the same needs as the fifth-century "deep brazier." It may be that this kind of brazier was also called, as Mau has argued (*Röm. Mitt.*, X, 1895, pp. 43-46), a *χυτρόπους* or *λάσανα*. On the other hand, Pollux (X, 99 ff.) seems to imply that *χυτρόπους*, *λάσανα*, *ἀνθράκιον*, and *ἑσχάρα* were (at least in his time) synonymous. In general, it would appear that all these terms were too broadly applied, perhaps especially so in later times, to allow for any of them so strict a definition as Mau proposes.

⁹⁸ Cf. Agora P 21959. Boulter, *op. cit.*, pl. 36, p. 125, no. 124, and others there cited. The type goes back at least to the seventh century.

⁹⁹ E.g., Aristophanes, *Ach.*, 888 ff.; Strattis in Pollux, X, 101.

¹⁰⁰ Looser terms, such as *χυτρόπους*, or *λάσανα* (above, note 97), would fit them well enough. *Ἀνθράκιον*, on the other hand, seems inappropriate.

¹⁰¹ Cf. above, note 91. The terracotta brazier, no. 1024, is mended with lead clamps, offering a curious analogy to Pollux's (VI, 88) *μολυβδόδετοι ἑσχάραι*. On *μολυβδόδετος*, which occurs in Stele V, line 35, see above, p. 209 and note 73.

the influence of our modern notion of what a fire-pan should look like. The "deep brazier," it is true, must have used charcoal too, and the fact that it could support a chytra¹⁰² gave it a special utility which helps to explain the great popularity of its Hellenistic descendant. The name *eschara*, however, seems better suited to the shallow type, which so closely resembles the modern Greek heating brazier (cf. also Mod. Greek *σχάρας*, applied to meat that is grilled over charcoal). We have concluded, therefore, that the "shallow brazier," Plate 49, c, is most probably an *ἐσχάρα*.

*5. SKAPHE, GASTROPTES, DEUTER (*Pollux*).

Although these objects are not mentioned in any extant part of the Stelai, Pollux states that they were listed in the *Demioφrata*. A brief note on them may, therefore, be in order here.

Skaphe.¹⁰³ Pollux, X, 103: ἐν δὲ τοῖς Δημοιοπράτοις εὐρίσκεται σκάφη μακρὰ καὶ σκάφη στρογγύλη. Evidently the word could be applied to any broad, shallow vessel, but Pollux is here speaking, more narrowly, of things used in cookery. We may perhaps picture such an object as the basin shown on the red-figured pelike in Berkeley,¹⁰⁴ in which a boy-satyr is preparing some kind of food. In this sense, the skaphe bears a strong functional resemblance to the *κάρδοπος* or *μάκτρα*.¹⁰⁵ These last were, however—at least as the kardopos appears in the Stelai—heavy objects; some of them were made of stone; in two cases a separate pedestal is mentioned.¹⁰⁶ In general, the usage of *σκάφη* implies something more easily portable. The terms *μακρά* and *μεγάλη* in Pollux's account suggest, respectively, an oval and a round basin. The mention elsewhere of a *σκάφη στρογγύλη*, as if this distinction were significant, may perhaps mean that oval skaphai were not uncommon.¹⁰⁷ The derivation of the word, from *σκάφω*, may indicate a wooden¹⁰⁸ or stone prototype, but the term could of course be applied to bowls of any material. Prices for skaphai are given in an Attic inscription of the third (?) century B.C.: σ[κάφ]αι μεγάλαι at 4 drachmai each, στρογγύλαι at 1 drachme each.¹⁰⁹ The material is not stated. In the Edict of Diocletian,¹¹⁰ the maximum price

¹⁰² Chytra is mentioned in the same passage with *eschara* in Aristophanes, *Vesp.*, 938, and elsewhere; but this does not prove that they were used together.

¹⁰³ Σκάφη: Liddell-Scott-Jones, *s.vv.* σκάφη, σκαφεῖον (2), σκάφιον, σκαφίς; *A.J.A.*, XLIX, 1945, p. 515 and the references there cited.

¹⁰⁴ *A.J.A.*, *op. cit.*, p. 509, fig. 1.

¹⁰⁵ Below, pp. 239-241.

¹⁰⁶ Stele II, lines 32-34, 35-37. Cf. *I.G.*, II², *Add. et Corr.*, 1424, a, line 257: σκάφη χαλκῇ· λεοντοβάσις, for a different sort of combination, in metal.

¹⁰⁷ See below, note 109.

¹⁰⁸ Cf. *I.G.*, II², 1648, line 20: [σ]κάφια ξύλινα; and *Edict. Diocl.*, XV, 48-51.

¹⁰⁹ *I.G.*, II², 1695, lines 16-19. Cf. also *I.G.*, XI, 2, 146, line 80, where 3 σκάφης (*sic*) is priced at 4 obols, and *Ins. Délos*, 290, line 76, where a σκαφίς εἰς παλαίστραν cost 3 obols.

¹¹⁰ *Edict. Diocl.*, XV, 48-51.

allowed, for a skaphe of 5-modius capacity ($\frac{5}{8}$ of a medimnos), is 150 denarii; for one of one-modius capacity, 50 denarii; for the same, iron-bound, 75 denarii; and, for a small bowl (κάβαθα ἥτοι κάμηλα) of half-modius capacity, turned, 30 denarii. For all but the first, wood is specified as the material.

Gastroptes.¹¹¹ Pollux, X, 105: Γαστρόπτης δὲ ἐν τοῖς Δημοπρατοῖς πέπραται, καὶ δευτήρ, κουνὸν ἀρτοποιῶ καὶ μαγείρῳ σκεῦος, ἀπὸ τὸ δεύειν ὠνομασμένον. The word γαστρόπτης, which has been defined from its etymology¹¹² as a 'vessel for cooking sausages,' occurs very rarely. It is found elsewhere only in the Delian temple inventories (there spelled differently),¹¹³ where it is listed among bronze objects. The gastroptes is hard to visualize, but, since "dry" cooking (ὄπτησις) is here in question, it need not have been a vessel. Dr. Pippin thinks of some kind of utensil.¹¹⁴ One could suppose, also, a grill or toasting rack, or even a toasting fork, as well as a pan or tray. For the grill, metal would be preferable,¹¹⁵ but there were found in the Athenian Agora terracotta objects (cf. Pl. 49, d)¹¹⁶ which must have been used for just this purpose.¹¹⁷ It seems possible that such a grill may have been called a *gastroptes*, but the information at hand does not allow a positive identification.¹¹⁸

Deuter.¹¹⁹ The word occurs only in Pollux, X, 105 (see above). The *Lexicon* defines it as a 'kettle' or 'cauldron,' comparing δεῦμα (itself a *hapax legomenon*, and a doubtful one at that),¹²⁰ and implying that food was boiled in it. But Pollux explicitly states that the deuter was used by both bakers and cooks, and he says that the word is derived from δεύω, which is more aptly connected with kneading than with boiling.¹²¹ It may be better, therefore, to define the deuter as a kind of mixing bowl

¹¹¹ Γαστρόπτης: Liddell-Scott-Jones, *s.v.*

¹¹² Cf. Liddell-Scott-Jones, *s.vv.* γαστήρ, I, 3, and ὀπάω.

¹¹³ *I.G.*, XI, 2, 161, B, line 128 (γαστροπτής), and 199, B, line 79 (γαστροποτής). Both entries refer to the same object. In *I.G.*, II², 1640, line 30, the entire word is restored.

¹¹⁴ Pritchett, Part II, p. 318.

¹¹⁵ Cf. *Délos*, XVIII, pp. 228-229, fig. 254, pl. 630, for leaden models of such grills.

¹¹⁶ Agora P 8305. Context of fourth to third century B.C. To be published in G. R. Edwards, *Athenian Agora, Hellenistic Pottery*.

¹¹⁷ The clay is fire-blackened. For a representation of such a grill in use, cf. the terracotta in Berlin, Cloché, *Classes*, pl. XXXV, 1. There is a similar group in the Athens National Museum (Helène Stathatos Collection). A grill of this sort was found at Olympia, E. Kunze and H. Schliel, *IV. Bericht über die Ausgrabungen in Olympia, 1940-41*, Berlin, 1944, pp. 103-104, figs. 87-88. Cf. also an Early Helladic example, remarkably like its classical descendants, which was found at Rafina in Attica and is now in the National Museum (Τὸ Ἔργον τῆς Ἀρχ. Ἐτ. κατὰ τὸ 1954, p. 31).

¹¹⁸ There is also a rare type of round frying-pan with parallel grooves in the bottom, perhaps for draining off fat, which could have been used for this kind of cookery. Cf. Agora P 18790, to be published by G. R. Edwards.

¹¹⁹ Δευτήρ: Liddell-Scott-Jones, *s.v.*

¹²⁰ Pindar, *Ol.*, I, 50, *dub. l.*

¹²¹ Cf. Liddell-Scott-Jones, *s.v.* δεύω (A), especially under I, 2.

or kneading basin, or perhaps a utensil¹²² for combining wet with dry substances. If it is a vessel, it may be in some way related to the *skaphe* and the *kardopos*.¹²³

VI. MORTARS, TROUGHS, TUBS, AND RELATED OBJECTS

This chapter deals with the large, open containers used in the preparation of bread, wine and oil; certain other vessels and implements applied to these processes; and finally, the *pyelos*, which is here taken to be a bathtub. Such unity as the chapter possesses therefore depends on the physical similarity of the principal objects, and on the functional relationship of the others to them.

Break-making in antiquity was done by a series of processes¹ involving types of equipment which remained in use, with remarkably little change, over the centuries. Even with the invention of new and more efficient methods, which were applied mostly in commercial production, the old, time-honored practices continued, especially for domestic or other small-scale needs. Whatever methods were used, the necessary steps included, after the crops were harvested, the flailing and winnowing of the grain (or other cereal) to remove the chaff, pounding or grinding the meal, sieving the meal either to remove chaff and other impurities or to obtain different grades of fineness or both, mixing and kneading and shaping of loaves or cakes, and baking. Most of these steps made use of objects which are listed in the Stelai. For the first, there are the *pteon* or *ptyon* (winnowing shovel) and the *thrinax* (winnowing fork).² For pounding and grinding, the *holmos* (mortar) and the *hyperon* (pestle) occur, as well as the more efficient friction mill, of which the movable part is the *onos aleton* (upper millstone).³ For sieving, there is the *koskinon* (sieve);⁴ and for mixing and kneading, the *kardopos* (kneading basin), perhaps also the *skaphe* (open bowl)⁵ and the *telia* (baker's tray?).⁶ Of these objects, the present chapter deals only with the *holmos* (pp. 235-238), the *hyperon* (pp. 238-239), and the *kardopos* (pp. 239-241).

The main processes of bread-making and the utensils required for them are

¹²² Cf. Pritchett, Part II, p. 318.

¹²³ Cf. below, pp. 239-241.

¹ These are fully described in Blümner, *Technologie*, I², pp. 1-96. Cf. also Pottier, *Dictionnaire*, III, p. 231, *s.v.* *Holmos*; E. Baudrillart, *ibid.*, III, pp. 2008-9, *s.v.* *Mortarium*; Cloché, *Classes*, pp. 14-15; Hug, *R.E.*, XVI, 1, 1933, cols. 319-321, *s.v.* *Mortarium*; Délos, XVIII, pp. 103-106; *Olynthus*, VIII, pp. 326-336. On some of the work in this section, I was assisted by Mr. Pershing Jung.

² On these entries, see Pritchett, Part II, pp. 293, 299 f.

³ Pritchett, Part II, pp. 298 f.

⁴ See below, Section VII, following number of this journal.

⁵ See above, pp. 231-232.

⁶ Pritchett, Part II, p. 315.

vividly shown in a familiar kind of terracotta sculptures,⁷ mostly of the archaic period. The most elaborate of all the groups which illustrate this theme are two in the National Museum (Pl. 50, a and b).⁸ In these, the various operations are so vividly depicted that we may let them serve to introduce the whole subject, before proceeding to the individual utensils which are listed in the Stelai.⁹

In the first group (Pl. 50, a), starting from the far side and moving clockwise, we see a widely vaulted oven (*ἰπνός*) resting on a low fire box which opens to the right. Inside the oven, which has a fully open front, there are small oblong cakes, pointed at both ends. The oven is tended by a small figure which sits or kneels in front of the opening, holding in the left hand some undistinguishable object, perhaps a cake. On the floor, in front of the oven and to the left, is a small bowl, possibly to hold water used for cleaning the oven between batches.¹⁰ To the right of the oven, there is a covered vase at the back, then the stump of what must have been a standing figure facing inward. Then a long, oval basin with high sides, inside it apparently two masses of dough and a broken-off projection which may be the stumps of a figure, inside the basin perhaps in order to work the dough by trampling it. Next, nearest us, a small round vase painted white inside; behind it an indistinct projection, perhaps the stump of a figure facing inward. Then, at our near left, we see another oblong kneading basin (*κάρδοπος*),¹¹ resting on a low support; over it are bent two figures kneading masses of dough; at the farther end there is a third mass of dough, and space for a third figure, now entirely missing. Finally at our far left, a figure stands facing us holding a large bowl-shaped sieve (*κόσκινον*)¹² over a basin on a tall pedestal (perhaps another kind of *κάρδοπος*?).¹³ Near the center of the whole group stands a figure, taller than the rest, which faces left and holds both arms extended; in the left hand is an object similar to that held by the oven-tender; the right hand is missing. The style of rendering the figures is crude, but, since there is no indication of their sex, they may be males, operating a commercial bakery.¹⁴

In the second group (Pl. 50, b), consisting of women, again the oven appears: barrel-shaped, full-width opening with a slight overhang of the roof, inside it an

⁷ E.g., Agnes Stillwell, *Corinth*, XV, ii, *The Potters' Quarter*, Princeton, 1952, pp. 206-207.

⁸ Athens, N.M. 4431 and 5773. The new photographs were made by Alison Frantz, after the objects were cleaned. For permission to publish them here, I am grateful to Mme. S. Karousou, Assistant Director of the National Museum.

⁹ These terracottas were first published by K. Kourouniotis, *Εφ. Ἀρχ.*, 1896, cols. 200-215, pl. XI, 1-2 (from drawings), with a detailed description and commentary, the latter especially valuable for the comparison drawn between ancient and modern Greek practices. Since then, the drawings have been often reproduced, e.g., *Dictionnaire*, IV, p. 495, fig. 5694 (= N.M. 5773).

¹⁰ Cf. Kourouniotis, *op. cit.*, col. 212.

¹¹ See below, pp. 239-241.

¹² Above, note 4.

¹³ See below, p. 241.

¹⁴ So Kourouniotis, *op. cit.*, col. 214.

irregular flat piece of clay perhaps meant as a cake;¹⁵ the end of it hangs limply out the front. The oven rests on a tall apsidal structure which opens to the right, housing the fire box; inside, four sticks of wood. A woman stands before it with a baby on her left arm, apparently poking the fire (or stoking it?) with a long stick which she holds in her right hand. The end of the stick is broken off. Next to her, a woman stands with a round one-handled tray, on which is a large, round loaf of unbaked bread. Then, on our near right, a woman holding in her arms a large container, more or less semicircular with high back and sides sloping downward to an open front edge, from which she appears to be shaking roughly-shaped pellets into a spreading bowl which rests on the floor in front of her. This may represent, as Kourouniotis thinks,¹⁶ the final winnowing of the grain to remove any remaining foreign matter. Nearest us, two standing figures flank a mortar (ὄλμος),¹⁷ in which they are pounding the cereal with heavy pestles (ῥπερα).¹⁸ Finally, at our left rear, a woman stands nursing a baby held on her left arm; the lower part of the baby and the woman's right hand are missing. At her right, on the floor, is a small dog.¹⁹ The center is occupied by a large round tray, on which are shown loaves in a variety of shapes,—round, doughnut-shaped, square,—and with various decorative patterns. This may be a scene of domestic bread-making, but there is actually no reason why the women could not be operating a commercial bakery.

In both of these groups, the lively and charmingly naïve representation has the immediacy of a snapshot, telling us more about bread-making than we could learn from many words. We may turn now, with a feeling of having visited two ancient bakeries, to our consideration of the relevant entries in the Stelai.

1. MORTAR (*Holmos*)

(II, 22-23 and 25-26; III, 10)

The ὄλμος²⁰ appears as a mortar as early as Hesiod, where it is described as a wooden object,²¹ and mentioned together with the (wooden) ῥπερον, or pestle, as often

¹⁵ Cf. Kourouniotes, *op. cit.*, cols. 211-212.

¹⁶ *Op. cit.*, cols. 207-208. The utensil may, then, be a λίκνον. Cf. J. E. Harrison, *J.H.S.*, XXIII, 1903, pp. 292-324.

¹⁷ See below, pp. 236-238.

¹⁸ See below, pp. 238-239.

¹⁹ Located here in Kourouniotis, *op. cit.*, pl. XI, 1 and so described by him. In our photograph (Pl. 50, b), and in the actual group as it now is constituted, the dog has moved to a position in front of the woman tending the fire. On the underside of the dog, there is a pencilled number, 5691.

²⁰ ὄλμος: Liddell-Scott-Jones, *s.v.*, but see below, note 21.

²¹ Hesiod, *Op.*, 423. So also in Eustathius, *ad Il.* XI, 147 (p. 835,48): ὄλμος . . . σκεῦος κοῖλον ἐκ λίθου ἢ καὶ ξύλου, and cf. Pliny, *H.N.*, 112, *pila lignea*. The word occurs twice in Aristophanes, once as a heavy mortar (*Vesp.*, 201), and once specifically as a wooden object, surely again a mortar (*Vesp.*, 238; cf. School. *ad loc.*: ὡς ξυλίνου ὄντος τοῦ ὄλμου). In neither case is there warrant

in Greek literature.²² The size which Hesiod recommends for a mortar is three feet (ὄλμος τριπόδης; in height or breadth?), for the pestle three cubits in length (ὑπερον τρίπηχυ[ν]). These dimensions agree fairly well with the apparent size of such objects as they are represented in vase-paintings, as will be seen below.

In the Stelai, three holmoi are listed. One, of stone (II, lines 25-26), has a price of 8 drachmai 5 obols.²³ A second, of wood (II, lines 22-23), is given a price which is partly lost, but with possible readings which range between 3 drachmai 3 obols and 14 drachmai 1 obol.²⁴ The third holmos, for which the material is not stated, but which should be of terracotta (III, line 10), brought 1 drachme 5 obols. The range of prices indicates that these were fairly large objects, and encourages us to suppose that they were on the scale of those seen in vase-paintings or of the large stone mortars found in excavations.

Representations of mortars in use appear in several vase-paintings, the best known of which are the East-Greek lebes in Boston and the Attic black-figured amphora in Leningrad. On the Boston lebes,²⁵ which represents some kind of religious festival, a man and a woman are shown with pestles, pounding meal (?) in a heavy mortar supported by a three-legged stand. The Leningrad vase²⁶ shows two women at work over a large, apparently one-piece, mortar with a conical base. From a later period, there is the Corinthian red-figured bell-krater, Athens N.M. 5815 (1391),²⁷ on which there is a comic scene of cooks being attacked by geese; in the center is a large, chalice-shaped mortar with conical foot, from which protrude the upper halves of what seem to be two large pestles. In none of these cases is it certain that a cereal product is being pounded in the bowls, but there can hardly be any doubt that mortars and pestles are represented. The material of which the mortars are made cannot be determined, but the pestles at least should be of wood.²⁸ There are also, among the numerous terracottas which represent different phases of bread-making and similar

for distinguishing a special meaning (e.g., 'kneading trough') as is done by some commentators and in Liddell-Scott-Jones. On the ὄλμος ξύλινος of Stele II, lines 22-23, see below.

²² E.g., Herodotos, I, 200; Pausanias, V, 18, 2; Pollux, X, 114.

²³ If, as Pritchett believes possible (Part I, p. 256), the first obol sign was miswritten for a drachme, the price would be 9 drachmai 4 obols.

²⁴ See Section IX, next number of this journal.

²⁵ A. Fairbanks, *A.J.A.*, XXIII, 1919, pp. 279 ff.; *id.*, *Museum of Fine Arts, Boston: Catalogue of Greek and Etruscan Vases*, I, Boston, 1928, pl. 58, no. 546; F. Villard, *Mon. Piot*, XLIII, 1949, especially pp. 42-49.

²⁶ Blümner, *Technologie*, I², p. 19, fig. 3; *Dictionnaire*, III, fig. 5149; Cloché, *Classes*, pl. IX, 2 (Beazley, *A.B.V.*, p. 309, no. 95, Swing Painter). There is a similar group on the b.-f. fragment Eleusis 1055, *Ath. Mitt.*, XLI, 1916, p. 58, fig. 13.

²⁷ M. Bieber, *History of the Greek and Roman Theater*, Princeton, 1939, p. 92, fig. 136; Corinthian, not Boeotian, as Trendall has pointed out (T. B. L. Webster, *Greek Theatre Production*, London, 1956, p. 132).

²⁸ Cf. above, note 22.

occupations, examples of figures using mortars and pestles, similar to those shown on the vases, as, for example, on our Plate 50.²⁹ In all these cases, the mortar appears to be a large, heavy object, the pestles long and narrow. The mortars shown on the vases seem, on a rough estimate, to be about 0.75 m. to 0.90 m. high, and perhaps up to 0.60 m. wide.

It has been doubted whether the figures in the vase-paintings and terracottas are actually pounding cereals into meal,³⁰ and of course mortars must have been used for many other purposes.³¹ One use, which still has to do with the preparation of cereals, might have been the pounding intended merely to remove the husks, the actual grinding process having been accomplished by some other means, in classical times often by a mill of one kind or another.³² In an Egyptian tomb painting of the Twelfth Dynasty (*ca.* 2000-1780 B.C.), the grain is pounded in a mortar much like the Greek examples (except that it is shaped like a truncated cone), but only to free the husks; it is then sieved to remove the remaining husks, and only after that is it ground on a saddle-quern.³³ Mixing or blending must also have been done often in the holmos, as the scene on the Boston lebes appears to suggest.

Actual specimens of mortars, quite naturally, vary widely in size, shape and apparent purpose. Prehistoric stone mortars,³⁴ like those found in Thessaly,³⁵ all tend to be small, shallow bowls, often provided with a spout at the side. It is questionable how useful they would have been for preparing meal. A Mycenaean terracotta mortar, found at Athens,³⁶ has a spout and three legs. These early types in many ways resemble the plain pottery vessels, identified as mortars, which have been found in fifth-century Corinth and Athens.³⁷ One need not doubt that such objects were called holmoi; but, since the large, heavy types known from the vase-paintings and from extant examples in stone appear to be far more relevant to our present discussion, we need not consider further the small clay types, beyond noting that they exist.

The stone mortars found at Olynthos³⁸ and at Delos³⁹ give a more reliable picture of the kind of holmoi that must be meant in the Stelai. Of the five found at Olynthos,

²⁹ Cf. also Blümner, *Technologie*, I², p. 19, fig. 4 (= F. Winter, *Die Typen der figürlichen Terrakotten*, I, Berlin, 1903, pl. 33,9), and p. 69, fig. 29.

³⁰ *Ibid.*, pp. 18-20.

³¹ *Ibid.*, p. 19; cf. Pausanias, V, 18,1.

³² On mills, see Pritchett, Part II, pp. 298f.

³³ Cf. Singer, Holmyard and Hall, *Hist. of Tech.* I, p. 274, fig. 175. Déonna (*Délos*, XVIII, p. 105, pl. 142, nos. 294-300) observes that this Egyptian form of mortar is also common on Delos.

³⁴ Blümner, *Technologie*, I², p. 18; *Délos*, XVIII, p. 102, note 2.

³⁵ A. J. B. Wace and M. S. Thompson, *Prehistoric Thessaly*, Cambridge, 1912, p. 122, fig. 172, cf. pp. 72, 191.

³⁶ O. Broneer, *Hesperia*, VIII, 1939, pp. 411-412, fig. 94.

³⁷ C. Boulter, *Hesperia*, XXII, 1953, p. 98, no. 122, pl. 34; and references there cited.

³⁸ *Olynthus*, VIII, pp. 335-336.

³⁹ *Delos*, XVIII, pp. 103-107; see also above, note 33.

two had handles projecting from the rims and two were made in two pieces with the basin extending into the lower stone. One specimen from Olynthos ⁴⁰ had been broken in antiquity and mended with lead clamps. There is a mortise in the lower stone; the two parts were held together by a tenon which projected from the upper stone. The average measurements of five of these Olynthian mortars ⁴¹ yield a height of 0.665 m., and a top outer diameter of 0.689 m., not very much smaller in either direction than Hesiod's *holmos tripodes* (above, p. 236). The Hellenistic types from Delos are more varied, ⁴² both as to size and form, but they are characteristically deep, and suggest a definite line of continuity with the fourth-century examples from Olynthos. Our examples, since they belong to the late fifth century, may be best compared with those from Olynthos for their shape, and may well have been of comparable size.

2. PESTLE (*Hyperon*)

(II, 224; V, 84)

The pestles (*ῥπερα*) ⁴³ which are used with the large mortars shown in the vase-paintings and terracotta figurines ⁴⁴ are long, paddle-like cylinders, somewhat pointed at either end, and tapered or thinned in the middle where they were gripped. Either end could thus be used for pounding (the object was held in a vertical position when in operation), the remaining half serving as a balance. The size usually appears to be about 0.75 m. to 0.90 m., but those shown on the Corinthian bell-krater in Athens ⁴⁵ look as if they might well attain the three-cubit length recommended by Hesiod. ⁴⁶ Other objects of this type, usually (and no doubt correctly) taken to be pestles, are brandished offensively by Thracian women in scenes of the Death of Orpheus, ⁴⁷ defensively by Trojan women in Iliupersis scenes. ⁴⁸

⁴⁰ *Olynthus*, XII, pp. 50-51, pl. 29,1, 3-4.

⁴¹ *Olynthus*, VIII, p. 335.

⁴² Above, note 39.

⁴³ *ῥπερον*: Liddell-Scott-Jones, *s.v.* *ῥπερος*, with a note which tends to favor the neuter form, on the evidence of what is now Stele II, line 224, where the plural *ῥπερα* is clear, and complete; Caskey and Beazley, p. 73, note 1. The text in Stele V, line 84 is incomplete, but is perhaps to be restored to allow for the existence of a number.

⁴⁴ Cf. above, notes 25-29.

⁴⁵ Above, note 27.

⁴⁶ Hesiod, *Op.*, 423. Cf., for the shape, Aeneas Tacticus, 33, 2.

⁴⁷ E.g., hydria, *C.V.A.*, Petit Palais, pl. 18, 2-6 (*A.R.V.*, p. 388, no. 5, "related to the Nausicaa Painter"). On the subject, see M. Z. Pease, *Hesperia*, VI, 1937, pp. 264-266, nos. 6-7; *C.V.A.*, Robinson Collection, 2, p. 33, pls. 46 and 47, 1; F. Brommer, *Satyroi*, Würzburg, 1937, p. 45, nos. 69-71. On the Beldam Painter's lekythos Athens N.M. 1129 (*A.B.V.*, p. 709; Haspels, *A.B.L.*, p. 266, no. 1, pl. 49) one of the attacking satyrs wields a pestle.

⁴⁸ E.g., hydria, Naples 2422 (Pfuhl, III, fig. 378; *A.R.V.*, p. 126, no. 66, Kleophrades Painter); kylix, Louvre G 152 (Pottier, *Vases du Louvre*, III, p. 184, pl. 121; *A.R.V.*, p. 245, no. 1, Brygos

Hypera are listed twice in the Stelai: once in II, line 224, where three pieces apparently were sold for 1 drachme 3 obols, yielding a calculated price of 3 obols each; and again in Stele V, line 84, where the termination of the line (and hence the number of objects) is lost, and where no price is given.

Pestles were of course made in many different sizes and shapes, and of various materials, wood,⁴⁹ iron,⁵⁰ stone,⁵¹ or terracotta,⁵² but those pictured in the vase-paintings must, because of their size and form, have been wooden objects. This is the type which would best suit the large mortars listed in Stelai II and III. The unit price of 3 obols is not inconsistent with the theory that they were probably large wooden pestles of this sort,⁵³ although stone is also possible.

3. KARDOPOS

(II, 4-5, 9-10, 11-12, 103-104, 229-230, 231-232)

Kardopoi occur only in Stele II, but we find there, individually listed, three examples of stone (II, lines 4-5, 11-12, 231-232),⁵⁴ three of clay (II, lines 9-10, 103-104, 229-230), and bases for two others, the material of which is not stated (II, lines 32-34, 35-37). In several of these entries, the prices are fortunately given, and extant. The stone kardopos in Stele II, lines 4-5 is priced at 7 drachmai 2 obols; for that in II, lines 11-12, where the price is incompletely preserved, we might, by analogy, best read 7 drachmai 5 obols.⁵⁵ The pottery kardopos in Stele II, lines 9-10 is priced at 2 drachmai. The entries in II, lines 32-34 and 35-37 list a broken base of a kardopos at 1 drachme 3 obols, and a base (presumably intact) for a broken kardopos at 6 drachmai 3 obols. From the prices, we might infer that these two

Painter) on which the warrior whom Andromeda attacks with a pestle is named "Υπερος! For other illustrations of this and the Orpheus theme, with a discussion of actual weapons of pestle-like form, see G. Kropatschek, "Morserkeulen und Pila Muralia," *Jahrb.*, XXIII, 1908, pp. 79-94, 181-184; cf. Blümner, *Technologie*, I², pp. 19-20.

⁴⁹ Cf. above, note 22.

⁵⁰ Cf. Pollux, VII, 107; Lucian, *Herm.*, 99.

⁵¹ The primitive pestles or pounders found with small stone mortars (cf. above, notes 34, 35) were also of stone.

⁵² E.g. *Olynthus*, XII, p. 50.

⁵³ We may compare the wooden lamp-stands of Stele II, lines 199-200 (Pritchett, Part II, pp. 240-241), at one obol each, but these probably used proportionately much less wood and owed their value more to the labor of making them. The grape-stakes of Stele II, lines 254-255, which must have cost less than .035 obol each, and may have sold at .03 obol each, were of course of unknown size, but they were probably unworked whips of olive wood or the like, since split-wood stakes would have wasted costly material better put to other uses. For pictures showing such stakes in use, see below, p. 243, note 78.

⁵⁴ Cf. *Insc. Délos*, 1403, B^b, col. 2, line 29: *κάρδοπον λιθίνην*.

⁵⁵ Possible, but less likely: 3 drachmai 5 obols or 12 drachmai 5 obols.

bases were of stone, and also that the stone kardopoi were probably made in two parts, since bases are listed and sold separately.⁵⁶ These inferences raise the problem whether the prices for the stone kardopoi in Stele II, lines 4-5 and 11-12 apply to the bowl and base together, or only to the bowl, a question which will be considered further below (Section IX). For the present, it may be observed that, in size, these objects seem to belong in the general neighborhood of the stone mortar in Stele II, lines 25-26, which brought 8 drachmai 5 obols (see above, p. 236).

A *κάρδοπος*⁵⁷ is a basin or 'trough' which was used principally for mixing and kneading dough. The word 'trough,' however, with its suggestion of an oblong shape, cannot be applied generically, for most of the objects used for this purpose in bread-making scenes are round. On the other hand, *μάκτρα*, which is used as a synonym⁵⁸ for *κάρδοπος*, has (in its later form *μάκρα*) the meaning of bath or sarcophagus;⁵⁹ and there are representations of oblong kardopoi in terracotta groups showing two or more persons simultaneously kneading dough, as on our Plate 50.⁶⁰ The oblong shape was perhaps favored for industrial use, but in the great majority of terracottas which represent kneading, the container is a circular basin on a pedestal, somewhat like a louterion,⁶¹ but heavier and coarser.⁶² In most aspects of their shape, they are remarkably like the kneading basins shown in old Egyptian figures and reliefs of many centuries earlier.⁶³ In some cases, kneading and shaping appear to take place in the same basin, as, evidently, on our Plate 50, a;⁶⁴ in other cases, there seems to have been a division of these operations, the shaping of

⁵⁶ Cf. the remarks on louteria, above, p. 222.

⁵⁷ *Κάρδοπος*: Liddell-Scott-Jones, *s.v.*; Stephanus, *Thes.*, *s.v.*; M. Besnier, *Dictionnaire*, IV, pp. 494-496, *s.v. Pistor*; E. Pottier, *ibid.*, III, p. 1479, *s.v. Mactra*. Cf. also the references given above, p. 233, note 1.

⁵⁸ Cf. Aristophanes, *Ran.*, 1159; Artemidoros, *Oneirocr.*, I, 5 (58).

⁵⁹ Cf. Liddell-Scott-Jones, *s.vv. μάκτρα, μάκρα*. Pollux (I, 245) also gives, as a synonym for *κάρδοπος*, the word *θνήα* (i.e., *θνήα*, properly a mortar).

⁶⁰ Cf. above, notes 8, 9. Also, the group in the Louvre showing four women kneading bread to the musical accompaniment of a flute; Bossert and Zschietzschmann, fig. 143, b; *Dictionnaire*, IV, p. 496, fig. 5695.

⁶¹ Cf. above, pp. 222 ff. An Attic fourth-century Kertch lekanis in Leningrad (Schefold, *Untersuch.*, p. 5, no. 11; Bossert and Zschietzschmann, fig. 143, a), has a scene which seems to be concerned with the preparation of wedding cakes. Two seated women are shown kneading or shaping the cakes on a three-legged table; at their left, a standing figure holds her hands down to a white basin on a pedestal, in its form undistinguishable from representations of louteria; is the object here serving as a kneading basin?

⁶² Examples and literature on these terracottas, which are numerous, are collected in *Corinth*, XV, ii, pp. 206-207.

⁶³ E.g., those shown in scenes of beer-making, such as the figurine, H. Ranke, *The Art of Ancient Egypt*, Vienna, 1936, fig. 75 (Old Kingdom); and often. In the three-dimensional group, *ibid.*, fig. 82 (Middle Kingdom), illustrating a bakery, the loaves are apparently fashioned on a flat disk supported by a cylindrical pedestal.

⁶⁴ Cf. above, note 8.

loaves or cakes having been done separately on a flat table or table-like object.⁶⁵ Of course, a mixture of dough can be obtained by applying liquid gradually to meal heaped on a flat surface, but usually the kneading seems to have been done in a basin of some depth. That later kardopoi had a similar form is indicated by the early third-century Megarian bowls in the Louvre and in Athens (replicas from one mould),⁶⁶ on which a worker is shown sifting meal into a pedestaled, louterion-like basin, which is most easily understood as a kardopos.

The identification of actual kardopoi cannot be attempted with any great feeling of assurance, for the expected shape is one which could be applied to a variety of uses. One possible example may be cited, however, which was found by J. H. Young in a (fourth-to-third-century?) context at Boundazeza in South Attica.⁶⁷ Among mortars and other objects belonging to a mill, there was found a "basin-like marble disk" which Young compares with the pedestaled basin on the Megarian bowls mentioned above, and a near-by block which "probably served as the stand for this basin." Young concludes that these objects "together . . . constitute one of the 'bird-bath' sifting tables such as the Louvre Megarian bowl shows." The basin, which was observed as a partly buried surface find, has a top outside diameter of 0.96 m.; the stand appears, from the published sketch of it, to have a height of some 0.30 m. Taken together, the two parts would form a fairly large object. We cannot be certain that this was, specifically, a kneading basin, but from all appearances it seems likely that it was.

From the materials discussed above, we have a reasonably clear notion of the kardopos, in both its round and its oblong shape. One cannot say whether those mentioned in Stele II were round or oblong; but the round form, being commoner, seems more probable. If this is a fair hypothesis, then our kardopoi should have been round, shallow basins on stands, shaped more or less like louteria, but probably rougher and heavier. The terracotta figurines of women kneading dough⁶⁸ probably give the most convincing picture of the object.

4. LENOS

(II, 255; V, 31; VI, 137)

The separation of the grape juice from the skin, seeds and pulp was accomplished in fifth-century Greece by primitive methods which reach far back into the Bronze Age, and no doubt even earlier. This method needs only a walled or rimmed area

⁶⁵ Cf. above, note 63. A large trestle table is so used on the Monument of Eurysaces in Rome; *Dictionnaire*, IV, p. 496, fig. 5697.

⁶⁶ *A.J.A.*, XLI, 1937, p. 88; *Εφ. Ἀρχ.*, 1914, p. 51, fig. 3. Cf. also below, on *κόσκιον* in the following number of this journal.

⁶⁷ J. H. Young, *Hesperia*, X, 1941, p. 190, figs. 11-12. Cf. *Délos*, XVIII, pp. 103-107.

⁶⁸ Cf. above, p. 234 and notes 8, 9.

in which the grapes are placed, a run-off channel, and a suitable catch-basin.⁶⁹ The grapes, after being put in place, are trodden by the bare feet of the workers, and the juice runs off through the channel into the basin. Even after the invention of more efficient devices, such as, first, the level press and, later, the screw press, the simpler method remained in use, as is evident from literary sources and from many illustrations.⁷⁰ Indeed, it is still practiced today in Greece and other parts of the Mediterranean area.

Ληνός,⁷¹ in the meaning most often given to it, is the place within which the grapes are trodden or squeezed, i. e., the press-bed,⁷² whether in the form of a simple treading-vat or as part of a more complicated apparatus.⁷³ Other uses of the word, as for 'watering trough,'⁷⁴ 'kneading trough,'⁷⁵ 'coffin,'⁷⁶ 'mast-socket,'⁷⁷ etc., are less frequent, and none of them seems to have any relevance here.

In Stele II, line 255 and in V, line 31, stone lenoi are specified; in VI, line 137, whatever followed ληνός is lost. The price is lost in V, line 31, and in the other two cases no separate price was given. In II, line 255, however, a stone lenos was sold

⁶⁹ Cf. for example, the illuminating discussion of Old Kingdom vintaging, wine treading and wine pressing given by P. Montet, *Les scènes de la vie privée dans les tombeaux de l'Ancien Empire*, Strasbourg and Paris, 1925, pp. 265-273. The best known Egyptian illustrations of grape treading are those in the Fifth-Dynasty tomb of Ti at Saqqarah (Montet, *op. cit.*, pl. 21, opp. p. 264) and in the Eighteenth-Dynasty tomb of Nakht (N. de G. Davies, *The Tomb of Nakht at Thebes*, New York, 1917, pl. 22; Nina M. Davies and A. H. Gardiner, *Egyptian Painting*, Chicago, 1936, pls. 48 and 98). A detailed comparison of Greek and Egyptian methods of wine-making would have great interest.

⁷⁰ On ancient Greek wine-making, see A. Jardé, *Dictionnaire*, V, pp. 360-362, *s.v.* *Torcular*; V. Chapot, *ibid.*, pp. 919-920, *s.v.* *Vinum*; Cloché, *Classes*, pp. 18-20; *Délos*, XVIII, pp. 97-101 (where, however, the Delian presses under discussion are taken, no doubt correctly, to have been used for oil), especially pp. 97-98, note 9.

⁷¹ Ληνός: Liddell-Scott-Jones, *s.v.*; Stephanus, *Thes.*, *s.v.*, Boisacq, *Dictionnaire*⁴, *s.v.*

⁷² Cf. C. C. Edgar, *Zenon Papyri*, III, no. 59,300, line 15 (*Cat. général Musée du Caire*, vol. 85, Le Caire, 1928). So also in Theokritos, VII, 25, XXV, 28; Diodorus Siculus, III, 63; Pollux, I, 225, VII, 151, X, 130; Hesychius, *s.v.*; Photius, *s.v.* Our inscriptions give the earliest use of ληνός in this sense, but Pollux, X, 130, quotes it from the *Demioptata*, as the *Lexicon* should have noted.

⁷³ 'Press-bed' appears also to be the meaning in Bekker, *Anecd.*, I, p. 277, not 'catch-basin' (i.e., *τριπτήρ*), as Jardé, *loc. cit.*, supposes. In Photius, *s.v.*, the definition ἄγγος ξύλινον οἴνου δεκτικόν should also mean the press-bed, the channel or basin of which receives the juice from the operation of the press above it.

⁷⁴ Only in the Homeric *Hymn to Hermes*, 104, and in the Septuagint (*Genesis*, XXX, 38, 41). Compare the similar use of *τριπτήρ* in *I.G.*, II², 1673, line 21, on which see below, p. 247.

⁷⁵ Only in Menander (Frag. 116), quoted as a curiosity by Pollux, VII, 22, VII, 179, and X, 102.

⁷⁶ Pherekrates, Frag. 5 Koch; and often later in Christian inscriptions (*I.G.*, XIV, 150, line 5; *C.I.G.*, 1979, etc.) and in Pollux, III, 102, VII, 160, VIII, 146, and X, 150. Compare the similar use of *πέλος*, Liddell-Scott-Jones, *s.v.*, 3, and cf. below, p. 253, note 138; listed in the *Stelai* (VI, 138) immediately after a ληνός.

⁷⁷ Asklepiades Myrelaios in Athenaeus, XI, 474; Pollux, I, 91.

together with 10,200 grape-stakes⁷⁸ for a total sum of 59 drachmai. If, in this composite entry, the unit price of the charakes came to an even figure, the simplest one would be 100 for 3 obols, which would yield a total of exactly 51 drachmai for the 10,200 stakes. The remainder of 8 drachmai could then be assigned to the stone lenos, a price which compares well with that of the stone mortar, at 8 drachmai 5 obols, in Stele II, lines 25-26. But it must be emphasized that the convenience of this division may be purely accidental, and that the two kinds of objects in the entry may never have been evaluated separately.

It is said that the wine press and the oil press in antiquity were alike in their form and operation;⁷⁹ and it is even suggested that the same apparatus served both purposes.⁸⁰ This is no doubt true in a general sense, and the press-bed for grapes (as opposed to the treading floor) would require essentially the same design as for olives. But, in the case of olives, greater pressure was needed for efficient extraction of the oil, and it is possible that the use of devices to exert this pressure (wooden shoes, a press-board laid over the bag of olives and trampled on, a lever-press, a screw-press, and finally, for preliminary crushing, the rotary mill, in ascending order of complexity) were invented first for use on olives,⁸¹ and only later applied to grapes. Even the lever-press, which is fairly simple, is found in use in Greece for olives⁸² several centuries before the earliest evidence of its use for grapes.⁸³ Furthermore, the word *ληνός* seems not to have been used with direct reference to an olive press,⁸⁴ and we might assume that the object belonged, originally and properly, to the vintage. In this latter context, *ληνός* may also have meant 'treading-floor'; but some other term, perhaps *σταφυλοβολεῖον*,⁸⁵ may have been more common. In any case, our *ληνοί* appear to have been portable. On this evidence, it seems most likely that the lenoi in the

⁷⁸ *Χάρακες*. On these, see Pritchett, Part II, pp. 305 f. Illustrated on the Attic b.-f. amphora Louvre AM 1008, *C.V.A.*, IV, III He, pl. 29, 3, where the tops of the stakes are forked, as is natural for such supports. Similarly forked poles are used as uprights of an enclosure for fowl in a relief in the Tomb of Ti at Saqqarah (V Dyn.), Montet, *op. cit.*, pl. X, opp. p. 120, and elsewhere in Egyptian art.

⁷⁹ Cf. Jardé, *op. cit.*, p. 360 and note 4; *Délos*, XVIII, p. 97 and note 2.

⁸⁰ Cf. M. Deffner, *Ath. Mitt.*, XXXIV, 1909, p. 346.

⁸¹ On ancient oil presses, see *Délos*, XVIII, *loc. cit.*, and the references there cited; *Olynthus*, VIII, pp. 339-341. There were pressing devices for grapes at least as early as the Old Kingdom in Egypt (cf. above, note 69), but these were apparently used for squeezing the pulp after completion of the first, and simpler, process of grape treading, which appears in the same scenes.

⁸² On the b.-f. skyphos Boston 525, Blümner, *Technologie*, I², p. 344, fig. 124; Cloché, *Classes*, pl. X. Here the press-bed and the run-off basin (a column-krater?) are quite similar to those shown in contemporary wine treading scenes, the differences being only in the addition of pressing apparatus. Cf. also the unpublished skyphos in Thebes, mentioned in *Olynthus*, VIII, p. 341, note 14.

⁸³ E.g., on the relief in Naples, Jardé, *op. cit.*, p. 362, fig. 7017.

⁸⁴ Unless, in Pollux, X, 130, *ληνός* and *ὑπολήνιον* are meant, respectively, as exact equivalents to the olive press and run-off basin described immediately above.

⁸⁵ See below, pp. 249-250, on *plinthoi staphyloboloi*.

Stelai were simple treading-vats of stone for use in the vintage, not presses in the technical sense, nor fixed treading-floors.

The work of harvesting and treading the vintage is shown in a number of vase-paintings, which range from the sixth to the middle of the fifth century B.C. From these representations we can obtain a good notion of the process. Although these are mostly ideal scenes, in which satyrs rather than humans do the work, and although the latest of them is several decades earlier than the time of the Steilai, still there are many later works, principally reliefs, which show that the same methods continued in use much later.⁸⁶ It seems reasonably safe, therefore, to rely on the vase-paintings, at least in their principal elements, as evidence applicable to the time of Alkibiades. The vases known to me which have scenes of grape *treading* are the following:

A. *Corinthian*

1. Louvre E634. Column-krater. Payne, *Necrocorinthia*, No. 1182; Pot-
tier, *Vases antiques du Louvre*, I, pl. 48; Cloché, *Classes*, pl. XII, 2.

B. *Attic Black-Figure*

2. Würzburg 265. Amphora. (*A.B.V.*, p. 151, no. 22; Amasis Painter).
Langlotz, *Würzburg*, pl. 74; Pfuhl, III, fig. 222; *Development*,
pl. 23,2; Cloché, *Classes*, pl. XI.
3. Leningrad. Amphora. Gerhard, *Auserlesene Vasenbilder*, pl. 15;
Pfuhl, III, fig. 287.
4. Würzburg 208. Amphora. Langlotz, *Würzburg*, pl. 44.
5. Brussels 278. Eye-neck amphora. *C.V.A.*, II, pl. 17; *Dictionnaire*, V,
p. 361, fig. 7014.
6. Paris, Bibliothèque Nationale 320. Kylix. (*A.B.V.*, p. 389 middle;
unattributed). *C.V.A.*, II, pls. 49-50; *Dictionnaire*, V, p. 361,
fig. 7015.
7. Rome, Villa Giulia 20748. Nikosthenic amphora. (*A.B.V.*, p. 218, no.
14, "Painter N"). *C.V.A.*, III, III He, pl. 24, 1.
8. Munich 1388 (J1110). Amphora. (*A.B.V.*, p. 140, bottom, no. 2, com-
pared with Painter of the Vatican Mourner). *C.V.A.*, I, pl. 25, 2.

C. *Attic Red-Figure*

9. Lecce, Museo Provinciale 602. Column-krater. (*A.R.V.*, p. 374, no. 32.
Leningrad Painter). *C.V.A.*, I, III I c, pl. 6, 1.

⁸⁶ E.g., on numerous reliefs, such as Bossert and Zschietzschmann, p. 203, below; on sarcophagi, such as those in H. Stuart Jones, *Sculptures of the Museo Capitolino*, Oxford, 1912, pl. 83, 5; *id.*, *Sculptures of the Palazzo dei Conservatori*, pl. 26, 4; F. Deichmann, *Frühchristliche Kirchen in*

10. New York, Metropolitan Museum of Art. Column-krater. (*A.R.V.*, p. 351, no. 4, Cleveland Painter). *C.V.A.*, (Fogg)—Gallatin, pl. 57, 2.
11. Bologna, Museo Civico 241. Column-krater. (*A.R.V.*, p. 347, no. 20, Orchard Painter). *C.V.A.*, I, III Ic, pl. 28, 1.
12. Rome, Vatican. Column-krater. (Repainted.) 'Εφ. 'Αρχ., 1924, p. 108, fig. 5; *Dictionnaire*, I, p. 33, fig. 63 (old drawing, from *Museum Etruscum Gregorianum*, II, Rome, 1842, pl. 24, 1).
13. Athens, National Museum. Column-krater. 'Εφ. 'Αρχ., 1924, pp. 106, 109, figs. 3, 6.

These representations vary in some details, but in most respects they agree. The center of operations is usually a flat table-like structure standing on thin legs, provided with low sides and having a drain-spout at one end (e.g., nos. 2, 9, 10, 12, 13). This must be one kind of *lenos*, as is generally assumed. Legs are present on all but nos. 1 and 7. Evidently the material is wood in most of these representations, since the legs appear to be turned, and the nailheads are shown where the legs are fastened on (cf. no. 9). Heavier specimens, like that on no. 6, may also be of wood, but some examples in stone may have been similar to it. In all these lenoi, the treading-basin is quite shallow, except for no. 10, which seems to have somewhat higher walls.

Under the spout of the *lenos* there is regularly shown a vessel which serves as a catch-basin, the *hypolenion*, or *tripter*.⁸⁷ The grapes are brought to the lenos in containers of various kinds, but consisting of two main types: large, deep baskets (e.g., no. 3 and elsewhere in vintaging scenes)⁸⁸ or heavy, wooden-looking bowls (e.g., on no. 13 and elsewhere).⁸⁹ The treader stands in the lenos, inside a container which keeps the grapes from spilling off. This inner container may be simply another basket, of the same kind as those used in harvesting the grapes (no. 13; cf. no. 2), or a low, flexible, boat-shaped basket with handles (nos. 3 and 6; cf. no. 7). Still other representations show skin-like or cloth-like sacks (nos. 9, 10, 11; cf. no. 12), sometimes apparently with handles which are grasped by the treader. The name for these interior containers has not been established, but it seems at least possible that they, like the carrying baskets, were called *staphyloboleia*.⁹⁰

Actual stone lenoi have been found, however, which can confidently be assigned to wine-making. These obviously are not direct copies of the wooden kind repre-

Rom, Basel, 1948, pl. 17 (Sarcophagus of Constantia); F. Gerke, *Der Sarkophag des Iunius Bassus*, Berlin, 1936, pl. 35; and often elsewhere.

⁸⁷ See below, pp. 247-249.

⁸⁸ *Staphyloboleia*? See below, p. 249.

⁸⁹ *Skaphai*? See above, p. 231.

⁹⁰ See below, pp. 249-250. In no. 13, above, the treader stands inside a tall carrying-basket.

sented in the vase-paintings, but are more closely parallel to the stone press-beds used in making olive oil. For wine, an impressively complete establishment of Hellenistic date was recently found at Mirmeki, near Kertch in the Crimea,⁹¹ with press-bed, run-off channels and vats all in place. Here the press-bed is a heavy circular stone with a channel near its perimeter, intended of course for mechanical pressing, and not a treading-floor in the primitive sense. A Bronze Age Minoan press (L.M. I, or 16th century B.C., according to Marinatos) found at Vathypetro in Crete⁹² more closely resembles the classical Greek arrangement as seen in the vase-paintings. In this case the grapes were trodden in deep open vases provided with spouts and drain-basins. In the classical press-beds which are thought to be intended for oil, there is a closer likeness to the equipment found at Mirmeki. The bed itself is most often made of a separate slab, usually square but sometimes round, which rested on a stone block or structure of blocks. Such are the press-beds found at Olynthos and at Delos.⁹³ A crude example of one-piece construction, presumably of Bronze Age date, which was found at Methana⁹⁴ illustrates how clumsy and hard to move such a press would be in contrast to the flat slabs of classical times.

From the foregoing evidence, we may conclude that the stone lenoi of the Stelai were most probably, like the press-beds from Olynthos and Delos, square or circular blocks, hollowed or channeled, provided with a run-off spout, and meant to be either imbedded in a floor or supported on a separate structure, the latter no doubt usually also of stone. Real portability, of the kind suggested by the lenoi of the vase-paintings, is scarcely to be assumed. As to their size, we can only guess; but, in order to offer room for a treader to work comfortably or for a press to work efficiently, a minimum diameter of about one meter would be required.⁹⁵ The price of 8 drachmai, which is conjectured above for one of our lenoi, seems appropriate for a stone object of such a size.⁹⁶

⁹¹ *Illustrated London News*, Jan. 5, 1957, pp. 28-29, figs. 1-2, 4-6; brought to my attention by Professor H. A. Thompson.

⁹² *Πρακτικά*, 1952, pp. 594-597, fig. 6; *B.C.H.*, LXXVII, 1953, p. 237, fig. 31.

⁹³ *Olynthus*, VIII, p. 342, pls. 81,4; 82,2; 83,1. The authors take these for oil presses, but suggest (*ibid.*, note 18) that the two spouted basins, pls. 81,4 and 83,1, may have been used for grapes. Cf. also the Hellenistic press-bed from Praisos, *B.S.A.*, VIII, 1901-1902, p. 265, fig. 31, which, though itself round, was supported by one or more square blocks. The press-beds found at Delos (*Délos*, XVIII, p. 100) are nearly all square (the round one, Cloché, *Classes*, pl. IX, 1) and quite heavy. The largest is 1.37 by 1.15 by 0.27 m. (*Délos*, XVIII, pl. 39, figs. 273-275). Their great thickness, as well as the nature of their channeling, favors Déonna's assumption that these were oil presses.

⁹⁴ Deffner, *Ath. Mitt.*, XXXIV, 1909, pp. 345-347, pl. 25,1. Deffner suggests that both grapes and olives may have been pressed on this object.

⁹⁵ The press-beds found at Delos are even bigger (cf. above, note 91). There is one from Olynthos (*Olynthus*, VIII, pl. 81,4) with an outer diameter of 0.86 m., length including spout 1.15 m.

⁹⁶ On the price, see further in the following number of this journal.

5. TRIPTER

(II, 1, and possibly 3; V, 32)

According to Pollux, a *τριπτήρ*⁹⁷ is a vessel into which the oil flows from the olive press (X, 130: ὁ κρατὴρ εἰς ὃν ἀπορρεῖ τοῦλαιον).⁹⁸ In the same passage he seems to equate it with *ὑπολήνιον*,⁹⁹ which he quotes from the *Demiooprata*, but which is not extant in the Stelai. It is not clear whether there is any real difference in meaning between these words, or whether they are synonymous. The earliest use of *τριπτήρ* occurs in Aristophanes (*Ach.*, 937), where the sense seems to be as in Pollux.¹⁰⁰ In Suidas, also, where Isaïos (Frag. 24) is cited, *τριπτήρ ἐστὶ πιθάκνη, ἐκπέταλος, οἷα τὰ ἐπιλήνια*.¹⁰¹ In other cases, the press itself is meant, or the wooden press-board, but the distinction is not always evident from the language.¹⁰² Tripter is associated with wine, as well as oil, so that Pollux' mention of oil need not be taken as restrictive.

Tripter is also used for a kind of mortar,¹⁰³ and for a pestle.¹⁰⁴ In a fourth-century inscription from Eleusis,¹⁰⁵ tripteres are mentioned as water troughs for livestock, but this is an isolated case, and need not be taken as a primary, or even regular, meaning (other large, open vessels, intended for different purposes, were also put to this use).¹⁰⁶ It is nevertheless true that *τριπτήρ* had a variety of meanings, as Suidas (*s.v.*) says: πολλὰ γὰρ καὶ ἄλλα σημαίνει τοῦνομα.

In the Stelai, there are two certain listings of tripteres (II, line 1 and V, line 32). In both lines the prices are lost, but the second at least gives the material as terracotta.

⁹⁷ *Τριπτήρ*: Liddell-Scott-Jones, *s.v.*; A. Jardé, *Dictionnaire*, V, pp. 360-362, *s.v. Torcular*; E. Pottier, *ibid.*, V, p. 469, *s.v. Tripter*.

⁹⁸ So also in Pollux, VII, 150; and cf. I, 246.

⁹⁹ Liddell-Scott-Jones, *s.v.* In Dittenberger, *O.G.I.*, 383, line 247 (Nimrud Dagħ; first century B.C.), the reason why a *κρατὴρ ὑπολήνιος* is mentioned in that context is not clear, but the expression should mean the same as *ὑπολήνιον*.

¹⁰⁰ Cf. Rogers, *ad loc.* It seems obvious that *τριπτήρ* here means a vessel.

¹⁰¹ For the use of *ἐπιλήνιον* in a similar sense (though differently understood in Liddell-Scott-Jones, *s.v.*) cf. Oppian, *Cynegetica*, I, 167 and A. W. Mair, *ad loc.* (Loeb Cl. Lib. Ed., pp. 14-15, note d).

¹⁰² Nicander, *Alex.*, 494, and Schol.; Bekker, *Anecd.*, I, p. 302: τὰ ξύλα τοῦ ὀργάνου, οἷς ὑποβάλλονται αἱ σαργάναι τῶν σταφυλῶν, οἷς στρέφουσι τοὺς στύλους τοῦ ὀργάνου. Cf. also Hesychius, *s.v. τριπτήρ*: ᾧ τὴν σταφυλὴν τρίβουσιν.

¹⁰³ Theophrastus, *de Lapid.*, 56. Cf. Bekker, *loc. cit.*: ἄλλοι δὲ φασὶ τριπτήρες εἶδος θυ<εί>ας, where, however, a press may again be meant.

¹⁰⁴ Only in Nicander, *Ther.*, 95, and Frag. 70, 15 in Athenaeus, IV, 133 e. Cf. Bekker, *loc. cit.*, οἱ δὲ ἀκόνην, i.e., a whetstone, which might be compared for its shape or its purpose.

¹⁰⁵ *I.G.*, II², 1673, line 21.

¹⁰⁶ Cf. Liddell-Scott-Jones, *s.v. ληνός*, 2. Note also the use of louterion-like basins for watering livestock on an East-Greek b.-f. amphora in Munich, Pfuhl, III, fig. 149, and on a relief from Otricoli in the Vatican, S. Reinach, *Répertoire des reliefs grecs et romains*, I, Paris, 1909-1912, p. 415,2. Suggested also by the unpublished b.-f. lekythos (white ground), Agora P 24067, by the Gela Painter (*A.B.V.*, p. 715, no. 16 ter).

Furthermore, in Stele II the first line is followed (lines 2-3) by a *sipyē* (price lost; but cf. above, p. 196), then by the entry *ἕτεροι* III, with a price of 5 drachmai 1 obol. Since the gender does not agree with that of *sipyē*, it seems logical to refer this entry back to the *τριπτήρες* of line 1, as Pritchett has said.¹⁰⁷ Elsewhere in this Stele, too, the unit prices for *sipyai* are given as 5 obols in one case (Stele II, line 6), apparently 3½ obols in the other (II, line 16), which is not very consistent with the price stated in line 3. If *ἕτεροι* refers to *τριπτήρες*, we have for them in this entry a unit price of 1 drachme 4⅓ obols, a figure which invites comparison with that of 2 drachmai for the pottery kardopos listed a few lines down (II, lines 9-10).¹⁰⁸

Of the possible meanings for *tripteres*, that which best fits the entries in the Stelai is the first, that is, they were run-off basins used to catch the flow of grape juice or olive oil from the press. 'Pestle,' the first meaning given in the *Lexicon*, occurs only in one author, and so also 'mortar,' which is given next; in both instances the authors are later than the fifth century B.C. 'Pestle' seems particularly ill-suited, since terra-cotta is twice mentioned as the material for tripteres, since *ὑπερον*, for 'pestle,' occurs in both Stele II and Stele V, and since the price (3 obols) does not agree very well with the possible price of 1 drachme 4⅓ obols for a tripter. This brings us back to the wine (or oil) press and its equipment. And again, since *ληνός* is used in Stelai II and V for the press itself, and for other reasons, the tripteres of the Stelai must be vessels of the sort defined by Pollux and implied by Aristophanes. Vessels of terra-cotta, large enough to cost nearly two drachmai, would suit this situation very well. The fact that they are sold in pairs in Stelai II, line 1 and V, line 32 may have no special significance, but it would be convenient to have an empty vase ready to put into position when the one in use was filled.

The exact form and size of our tripteres cannot readily be established. One difficulty is that almost any vessel that was large enough could have been applied to this use. Pollux calls it a *κρατήρ* (VII, 151; X, 130),¹⁰⁹ Suidas (*s.v.*) a *πιθάκη*, *ἐκπέταλος*, and indeed a wide mouth-opening would be advantageous. In most of the pictures of wine treading that appear on vases,¹¹⁰ the juice flows from the lenos into a wide-mouthed vessel, sometimes partly sunk into the ground. In some cases, it looks like a pithos,¹¹¹ but more often it resembles a krater,¹¹² or at any rate a broad, basin-like vessel.¹¹³ All of these containers are quite large and heavy-looking, some of them

¹⁰⁷ Pritchett, Part I, p. 256.

¹⁰⁸ See also above, p. 239.

¹⁰⁹ Cf. Aristophanes, *Ach.*, 937, where *κρατήρ* and *τριπτήρ* are rhetorically balanced.

¹¹⁰ See above, pp. 244-245.

¹¹¹ E.g., above p. 244, no. 2.

¹¹² E.g., above, p. 245, no. 13, where a lugged bell-krater, partly buried in the ground, seems to be represented; and cf. above, notes 91-92. The shape also resembles that of a round bathtub; see below, p. 254, note 142.

¹¹³ E.g., above, p. 244, nos. 3, 9. On no. 10, the run-off basin is a squat, bulging vessel with

more so than others.¹⁴ After all due allowances for variety of shape and size, it seems likely that vessels of this type are meant by the *tripteres* in the Stelai. If so, and if the unit price of 1 drachme 4½ obols is valid for *tripteres* in Stele II, line 3, this conclusion adds valuable evidence to our knowledge of prices for pottery in the late fifth century B.C.

6. PLINTHOS STAPHYLOBOLOS

(V, 36)

The whole entry reads [π]λινθοισταφυλοβόλοι, with no interruption between the two words. The price is lost, and the number of objects sold is apparently not stated.¹¹² The word *σταφυλοβόλοι* is new, and the question must first be asked, whether it is here a noun or an adjective.

The only comparable word, *σταφυλοβολεῖον* (or *-βόλιον*), appears only in lexicographical sources.¹¹⁶ Pollux, in one place (VII, 151), calls it a vessel in which the vintagers put the grapes (ὁ κρατῆρ ἐν ᾧ τὰς σταφυλὰς βάλλουσιν οἱ τρυγῶντες); in another passage (X, 129), where perhaps the same meaning is intended, he lists it among containers in which the crops are collected (τὰ ἀγγεῖα τὰ ὑποδεχόμενα τὴν ὀπώραν), and in the company of baskets, so that we might be justified thus far in calling it a vintage basket.¹¹⁷ Finally, Pollux (I, 245, with the form *-βόλιον*) lists it again among containers used by farmers, and again in proximity to baskets, but gives as a synonym *ταμιεῖον*, which properly means a storage-room or storehouse. The passage is, therefore, ambiguous. On the one hand, *ταμιεῖον* might have a special application here, such as 'storage basket,' with *σταφυλοβολεῖον* defined as before; on the other, if *ταμιεῖον* has the significance of a 'room,' *σταφυλοβολεῖον* might be understood as a place where grapes are put for treading, i.e., a treading-floor (see below).

Among the lexicographers, Photius has the fullest entry, offering three definitions for the word:¹¹⁸ (1) the container *within* the lenos, in which the vintage is trodden; (2) the basket in which the grapes are brought from the fields, to be

two side-handles, tilted upward. Cf. also the large stone catch-basin in the Minoan press-bed found at Vathypetro, p. 246.

¹¹⁴ Compare the size of the amphora as represented on the column-krater in Athens, above, p. 245, no. 13.

¹¹⁵ Cf. Pritchett, Part I, pl. 77, a.

¹¹⁶ Liddell-Scott-Jones, *s.v.*, which cites Pollux, I, 245; VII, 51; X, 129; and Bekker, *Anecd.*, I, p. 303. To these references, add Hesychius and Photius, *s.v.*, and Suidas, *s.v.* *σταφυλή*; and note that the *Lexicon's* definition, 'vat or basket in which grapes are put for pressing,' is hardly adequate. Cf. also E. Pottier, *Dictionnaire*, IV, p. 1464, *s.v.*

¹¹⁷ Such baskets appear frequently in scenes of vintaging; cf. above, pp. 244-245.

¹¹⁸ Photius, *s.v.* *σταφυλοβολεῖον*. οἱ μὲν φασι σταφυλοβολεῖον εἶναι ἐν ᾧ ἀνακόπτουσιν ἐν τῇ ληνῷ τοὺς βότρυς οἱ πατοῦντες, ἀπὸ τοῦ βάλλειν τὴν σταφυλὴν. οἱ δὲ τοὺς κοφίνους φασίν, ἐν οἷς ἀπὸ τῶν ἀγρῶν φέροντες τὴν σταφυλὴν βάλλουσιν εἰς τὴν ληνόν. ἄλλοι δὲ λέγουσιν σταφυλοβολεῖον εἶναι ἄγγος τι χωρητικὸν οἴνου.

emptied into the lenos; and (3) a kind of container for wine. Essentially the same information is given in Bekker, *Anecd.*, I, p. 303. The second of these definitions, 'vintage basket,' agrees with Pollux, VII, 151 and X, 129. Something like the first, 'vessel or place in which grapes are trodden,' seems to be meant by Hesychius and Suidas.¹¹⁹

In the grape treading scenes in vase-paintings,¹²⁰ the treaders sometimes stand inside a basket, or bag-like container, which rests on the floor of the lenos,¹²¹ and it is possible that this kind of thing was called a staphyloboleion. It is also possible that when, as must have been usual later on, a fixed treading-floor was used, this floor itself was so named,¹²² as the language of Suidas (τὸ καλούμενον πατητήριον) suggests. The ancient definitions, at any rate, seem to have a fairly wide range of meanings for the word, a word which is, after all, more functional than graphic, and which demands from its etymology no very precise meaning.

What, then, of *plinthoi* and *staphyloboloi*? Although σταφυλοβόλοι is unique, we might without difficulty accept it as a substantive, and a probable equivalent for staphyloboleia (i.e., 'vintage baskets,' 'treading baskets,' or the like), if it had a line to itself. But instead, it follows, in the same line and without interruption, upon πλίνθοι, and with no number after either word. A curious juxtaposition of bricks and baskets, both unnumbered, if the two words are to stand separately! Because of this difficulty, it seems better to take *staphyloboloi* as an adjective with *plinthoi* and to understand 'bricks (or tiles) for a treading-floor' (cf. above, on σταφυλοβολεῖον). These, too, are without parallel, but at least this interpretation brings the sense of the words together and would help to explain the puzzle of the missing numbers. The pavement of treading-floors was usually made of plaster, but that of one found west of the Acropolis at Athens¹²³ was made of river pebbles and lime-mortar. One can easily suppose that a very effective floor could be made of bricks set in mortar, and that was perhaps the purpose of these plinthoi staphyloboloi. The fact that they are not numbered might also suggest that they were not in very good condition. Possibly they had been taken up, deteriorated and in more or less fragmentary state, from an old treading-floor.

On the manufacture, uses, and prices of bricks, see Pritchett, Part II, pp. 286 f.

¹¹⁹ Hesychius, *s.v.* σταφυλοβολεῖον· μέρος τι τῆς ληνοῦ; Suidas, *s.v.* σταφυλή . . . καὶ σταφυλοβολεῖον, τὸ καλούμενον πατητήριον.

¹²⁰ Cf. above, pp. 244-245.

¹²¹ E.g., above, pp. 244-245, nos. 2, 9, 10.

¹²² Cf. A. Jardé, *op. cit.*, p. 361: "le sol où l'on foule le raisin."

¹²³ Jardé, *loc. cit.*, identifies it as a *staphyloboleion*. It is described by W. Dörpfeld, *Ath. Mitt.*, XX, 1895, pp. 168-170, with ill. Other treading-floors: *Olynthus*, VIII, pp. 342-343; *B.S.A.*, XXV, 1921-23, p. 69 (Mycenae, Hellenistic).

7. PIESTERION

(V, 10)

The words *πιεστήρ* and *πιεστήριον* are cited by various writers on Greek antiquities as if they were established terms for 'wine press' or 'oil press.'¹²⁴ *Piesteria* are therefore placed in this section; but it became evident, upon close study of the words, that the *πιεστήρια* of this entry can hardly have anything to do with oil or wine presses.

The word itself is not very concrete or graphic, and it is so rarely encountered that one has great difficulty in obtaining any clear impression of these objects. In the *Lexicon*,¹²⁵ the terms *πιεστήρ*, *πιεστήριον* and *πιεστήριον ὄργανον* are defined very loosely ('squeezer,' 'press'), and treated as if they were all more or less synonymous, as indeed they are if one is content with a broad enough definition. Inherently, there is probably no reason why oil presses and wine presses could not have been covered by these expressions. Actually, however, there is not one ancient source¹²⁶ in which any of these words appears to have been used or defined in this sense.

The words in question occur chiefly in medical writings, where they have a variety of specialized meanings. There, the *piester* or *piesterion* is a pressing or squeezing instrument used in preparing medical concoctions.¹²⁷ Adjectivally, there is (only once) *piesterion organon*, for a kind of clamp used in setting dislocated limbs.¹²⁸ *Piesteron*, found only three times, refers to a very specialized surgical instrument.¹²⁹

Apart from the foregoing cases, the occurrence of these words is very rare indeed. For *piester*, we have only the (restored) fourth-century inscription from Eleusis,¹³⁰ in which the epistatai report their re-use of some old iron *μοχλοί* for wedges, hammers, and *πιεστή[ρες]*. These objects certainly were not wine or olive presses; perhaps clamps to be used in construction work? Finally, there is a later source containing an obscure passage in which the word *πιαστήρ* (*sic*) appears to mean some-

¹²⁴ A. Jardé, *Dictionnaire*, V, p. 360 *s.v.* *Torcular*; Cloché, *Classes*, p. 17; cf. Blümner, *Technologie*, I², p. 344, note 1.

¹²⁵ Liddell-Scott-Jones, *s.vv.*

¹²⁶ In *Corpus Glossariorum Latinorum*, II, 407, lines 44-45, *πιεστήριον* is equated with *pressorium* (itself a late word: 'clothes-press' in Ammianus Marcellinus, XXVIII, 4, 19), *πιεστήρ* with *prelum*; but cf. *C.G.L.*, III, 263, lines 17 and 20.

¹²⁷ *Gleukinon* (Galen, vol. XIII, p. 1044); *mekon*, the opium poppy (Dioscurides, IV, 64); *mandragoras*, the mandrake root (*ibid.*, IV, 65). For *piester*, I have been unable to consult Aetius Medicus, XII, 55 (sixth century A.D.), but it too is of course a medical source.

¹²⁸ Oribasius, XLIX, 4, 68.

¹²⁹ Galen, vol. XIV, 104 and 130, in his Glossary of Hippocratic words; its use is described by Hippocrates, *Mul.*, I, 70 = 680, 15.

¹³⁰ *I.G.*, II², 1672, line 304. If the word is *πιεστήρες*, this is the only occurrence of the form in classical Greek. Perhaps, on the evidence of our inscription, it should be restored *πιεστή[ρια]*. Cf. above, pp. 221 and 218, on *λουτήρ-λουτήριον* and *θερμαντήρ-θερμαντήριον*.

thing like 'grappling hook';¹³¹ and Suidas (*s.v.*) defines *πιεστήριον*, not very helpfully, as an *ἔκθλιβον*, which I have been unable to find elsewhere.

Our inscription gives by far the earliest occurrence of the word *πιεστήριον*. The evidence for its meaning, as surveyed above, offers no encouragement for identifying these objects with oil or wine presses. Without further clues, we can hardly define our *piesteria* more accurately than to call them 'objects for pressing, squeezing, pinching, or the like.' Whatever they were, there were seven of them in this lot, and one is disinclined to allow them any great size or importance. The context, though otherwise not very revealing, is unimpressive: a broken cot (V, line 9), a block of wood (V, line 11), a bench or stool (V, line 12).¹³² But the entry in line 9 may, just conceivably, have some connection. Could these *piesteria* have been some kind of fittings or clamps from the cot, perhaps relevant to its broken condition? This is rather a desperate guess, but here we have little else to guide us.

*8. ΕΚΠΙΕΣΤΗΡΙΟΝ (*Pollux*)

Pollux has no mention of *piesteria*, but he does attribute an *ἐκπιεστήριον* to the *Demioprata*,¹³³ in a passage dealing with the care of clothing. Here the *ekpiesterion* seems to be some kind of fuller's press. The word is not extant in the Stelai, but there is no compelling reason to suppose that Pollux was erroneously citing the *piesteria* of Stele V, line 10.

9. ΠΥΕΛΟΣ

(VI, 138)

The word *πύελο[s]* occurs only once in the Stelai, in a passage which does not give separate prices for the objects listed. The text of this line is mutilated, too, so that even the number of *pyeloi* is uncertain. The fragment apparently lists real property on Thasos, auctioned as a single lot together with some large, more or less stationary objects, a fact which supports the restoration of *pyelos* in the singular. Besides the *pyelos*, there is a *lenos* (see above, p. 242) and perhaps a number of *pithoi* (above, p. 168).

A *πύελος*¹³⁴ is, usually, a bathtub, and that is most probably its meaning in this case. Other uses of the word, where they occur, are most often natural derivatives

¹³¹ *Martyrium Arethae*, 50, in Boissonade, *Anecdota Graecae*, vol. V. Cf. E. A. Sophocles, *Greek Lexicon of the Roman and Byzantine Periods*, New York, 1887, *s.v.*

¹³² On these entries, see Pritchett, Part II, pp. 215; 230 f.; 300 f.

¹³³ Pollux, X, 135; a *hapax legomenon*, but cf. above, note 126 on *pressorium*.

¹³⁴ *Πύελος*: Liddell-Scott-Jones, *s.v.*; Stephanus, *Thes.*, *s.v.*; E. Saglio, *Dictionnaire*, I, p. 650, *s.v. Balneum, Balneae*; G. Karo and E. Pottier, *ibid.*, IV, pp. 781-782, *s.v. Pyelos*; *Olynthus*, VIII, pp. 198-204; *Délos*, XVIII, pp. 84-89.

of this meaning¹³⁵ and in any event seem to come earlier or later than the fifth century. The meaning in Aristophanes, our only really contemporary source, is regularly 'bathtub.'¹³⁶

Bathtubs of historic Greek times are of a more or less standardized form, the essential features of which were inherited from the Bronze Age.¹³⁷ The material, except in public baths, was regularly terracotta, and the tub was frequently built into one corner of a specially designed bathroom, which was provided with a paved floor and a drain. Often the tubs themselves did not have drains, and had to be emptied by hand; to facilitate this operation, there was provided a circular depression in one end (the foot) of the tub, into which the remaining water would collect during drainage. The form of the tub was strikingly consistent from the Bronze Age to the Hellenistic period, with only minor evolutionary changes. It was usually of a long oval shape, often tapering downward toward one end and with walls sloping inward toward the bottom. Designed to accommodate a single seated bather, it was seldom more than 1 m. long, with walls seldom higher than 0.40 m. at the highest point (the back). Although Bronze Age examples¹³⁸ do not have such a feature, the drainage (or foot) basin is usual in classical and later times.¹³⁹ A further refinement, common in the Hellenistic period but perhaps introduced much earlier, is the raised seat at the back of the tub.¹⁴⁰

¹³⁵ See especially Karo and Pottier, *loc. cit.*

¹³⁶ For the full range of meanings, see the *Lexicon*; but see also the note on Aristophanes, *Vesp.*, 141, in *Olynthus*, VIII, p. 179, note 72, where the meaning 'bathroom' (as opposed to the *Lexicon*'s 'vat, kitchen-boiler') is defended by citation of the materials found at Olynthos. But if the meaning here is actually 'bathroom' (and not simply 'bathtub'), even this is an extension of the original sense.

¹³⁷ For Bronze Age examples, see especially Karo and Pottier, *loc. cit.*, and below, note 138. In Homer, the word for bathtub is ἀσάμινθος, which is apparently of Bronze Age origin. The one occurrence of πύελος in Homer (*Od.*, XIX, 553) is defined in the *Lexicon* as a 'trough for feeding animals' (*sc.* geese), a generally accepted but not altogether certain translation. The geese do not necessarily feed *from* the πύελος, rather, beside it (παρὰ πύελον); the setting is very vaguely defined (ἐνὶ μεγάροις); and, besides, it was all a dream.

¹³⁸ E.g., from Knossos: Evans, *P.M.*, I, p. 580, fig. 424, also illustrated *ibid.*, III, p. 386, fig. 257 (M.M. III); *ibid.*, III, p. 384-385, figs. 255-256 (L.M. II). From Milatos: *Mon. Ant.*, I, p. 201, pl. II. From Tiryns: Karo and Pottier, *loc. cit.*, p. 781 and note 7. The bathtubs found at Phylakopi on Melos (*B.S.A.*, Suppl. IV, *Phylakopi*, 1904, pp. 139-143, pl. 30) are of a different form, more closely resembling that of a wash-basin. It should be noted also, for the Bronze Age, that pottery larnakes, used as coffins, are called 'bathtubs,' though it is often doubtful whether they were so used (e.g., G. Maraghiannis, *Antiquités Crétoises*, II, Candia, 1907-11, pl. 30, from Gournia). An exceptional case is that of the bath at Pylos, which consists of a terracotta basin of larnax type imbedded in a "tub-like undercontainer" (C. Blegen, *A.J.A.*, LX, 1956, p. 100, pls. 47-48, figs. 19-21).

¹³⁹ See especially *Olynthus*, VIII, p. 200.

¹⁴⁰ See Broneer, *Hesperia*, XXVII, 1958, p. 18 and note 18, citing examples from Olympia which are believed to go back to the fifth century B.C.; but see also *Olynthus*, VIII, pp. 200-201, note

In the fifth century B.C., the current type probably resembled most closely the examples found at Olynthos.¹⁴¹ Such a form is no doubt what we should visualize for the *pyelos* as it occurs in Aristophanes and in our Stele.¹⁴²

(To be continued in the following number of this journal.)

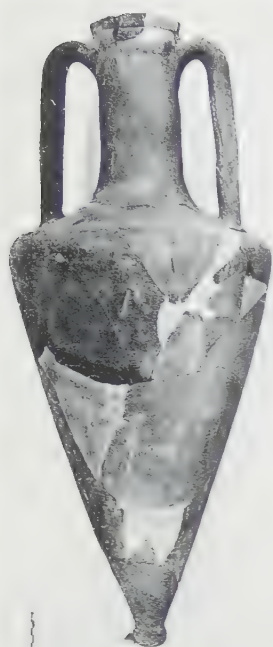
D. A. AMYX

UNIVERSITY OF CALIFORNIA
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75. A specimen found at Leuktra, allegedly in a fifth-century context (*Arch. Anz.*, 1934, col. 162, and 1935, col. 212), has such a raised seat, but the dating seems uncertain. A good Hellenistic example, with seat, is that found at Mycenae, *B.S.A.*, XXV, 1921-23, p. 100, fig. 24. New examples, recently discovered in the excavations at Isthmia (Broneer, *Hesperia*, XXIV, 1955, p. 127, pl. 49, c; XXVII, 1958, pp. 18-19, pl. 8, a) include one built-in specimen, with a seat, and fragments of terracotta bathtubs. These latter appear to have been seatless (e.g., IM 816 A, unpublished), but it is still possible that seats may have been set in separately, or attached only to the (missing) back end of the floor. The context of these tubs is tentatively put around the turn of the fourth to the third century. (Professor Broneer has very kindly shown me this material and discussed the question of its date.) Hence, it is hard to say just when the bathtub with seat was introduced, but the Olympia evidence suggests an earlier date than I had formerly supposed.

¹⁴¹ *Olynthus*, VIII, *loc. cit.*, especially pls. 49, 1-2; 53, 1-2; 54, 2. A fragmentary bathtub of mid-fifth-century date, found recently in the Athenian Agora (C. Boulter, *Hesperia*, XXII, 1953, pp. 98-99, pl. 37, no. 130), although the back half is not preserved, tends to confirm this impression. We cannot be certain of this, but the tub may, like the Olynthian examples, have been seatless. It is interesting that the foot-basin has a small drainage-hole, a convenience not usually provided (see above, p. 253).

¹⁴² Another type, the round, krater-like basin, which appears in vase-paintings (e.g., *C.V.A.*, Oxford, II, III I, pl. 53, 3, cf. Beazley, *ad loc.*, p. 105; Euergides Painter, *A.R.V.*, p. 60, no. 20), may also have been called a *pyelos*, but the context of our entry suggests that the other kind was more probably meant. On the round tub, see also, *Délos*, XVIII, p. 88.



a. Chian Amphora
P 18816



b. Kados on Red-Figured Cup
Boston, M.F.A. 95.29



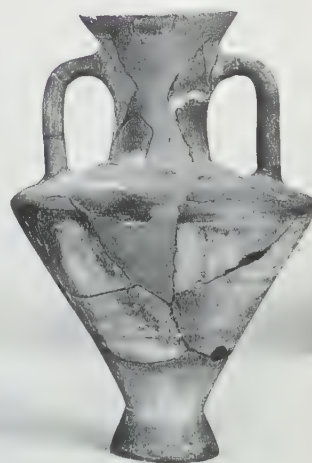
c. Kados-Shaped Pithos
P 19737



d. Kados
P 24666



e. Stamnos (?)
P 5173



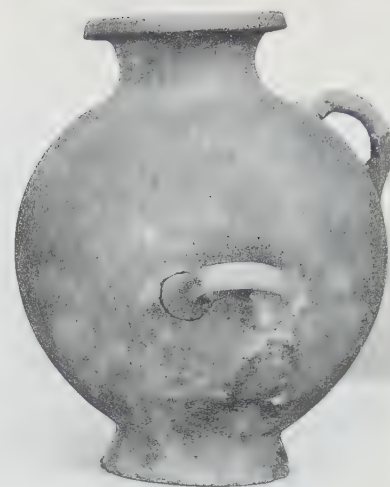
f. Small Wine-Jar
P 8858



a. Sipye (?)
P 4864



b. Red-Figured Hydria
P 6053



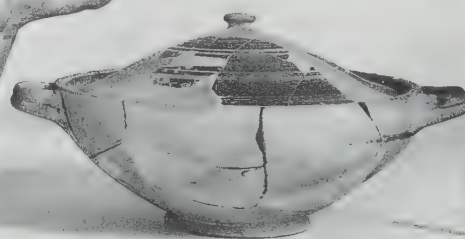
c. Household Hydria
P 874



d. Black-Glazed Lekanis
P 10370



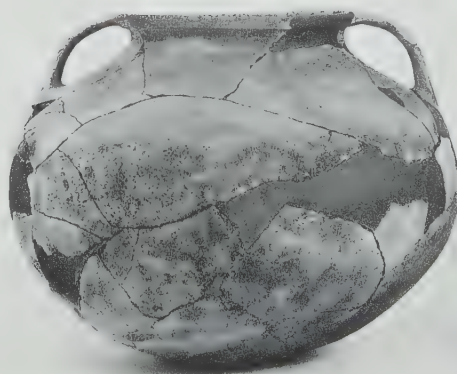
e. Lekane
P 21931



f. Household Lekanis
P 11004 + 11007



g. Black-Glazed Chous
P 23861



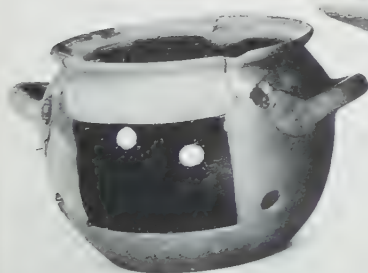
h. Chytra
P 21947



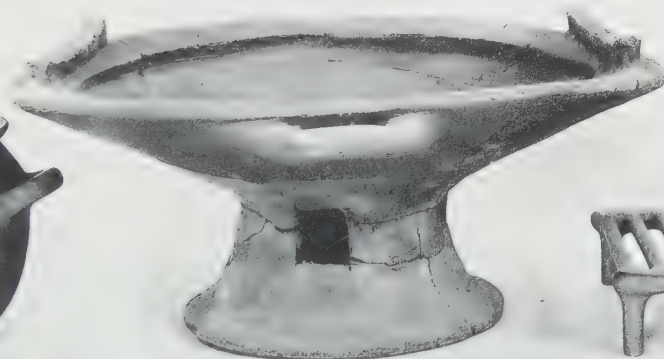
i. Myke (?)
P 9428



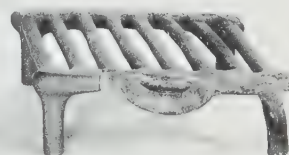
a. Alabastron
ST 201



b. Deep Brazier
P 21958



c. Shallow Brazier: Eschara
P 21956



d. Grill: Gastropes (?)
P 8305



e. Lepas (?)
P 2360



f. Chone
P 6646



g. Hethmos
P 16387



a. Terracotta Group. Athens, National Museum 4431



b. Terracotta Group. Athens, National Museum 5773

THE ATTIC STELAI

PART III

VASES AND OTHER CONTAINERS

(PLATES 51-54)

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VII. FUNNELS, SIEVES, STRAINERS

1. FUNNEL (CHONE, CHOANION)

(II, 201; VII, 57-58)

Funnels are twice mentioned in the Stelai. In II, line 201, thirteen [χ]ῶναι are listed, at a total price which has been tentatively read as 2 drachmai. The stone is, however, too badly mutilated, in the area of the numerals, to allow much confidence in this reading. Since these are likely to be pottery objects, the price itself seems improbably high (two *obols*, for the lot, would be high enough), and it seems best here to regard the price as illegible. In the other passage, Stele VII, lines 57-58, which is also partly mutilated, a [χ]οάνιον μολυβδοῦν . . . ενος seems to be priced at 2 drachmai 2 obols. The passage, in its present state, is obscure. I am unable to make anything of the ending -ενος in the word (or words?) following μολυβδοῦν. It is possible that more than one object was included in this entry.

The word *χοάνη*, or the contracted form *χώνη*,¹ is most commonly used to mean 'funnel,' whereas *χόανος* (*χῶνος*) and *χόανον* (*χῶνον*)² usually refer to a crucible or melting-pot for metals; but sometimes these meanings are reversed.³ Pollux lists *χοάναι* among objects used in working iron (VII, 106) and bronze (X, 147), but speaks of *χώνη* as something used in connection with wine (X, 75), hence, a funnel; but it is not possible to establish any basic difference of meaning between these two forms. Both occur in contexts where only 'funnel' can be meant in Attic writers.⁴ Likewise, Attic inscriptions show the same fluctuation in passages which apparently refer to funnels.⁵ It is, therefore, not strange to find both forms here, in the same group of inscriptions. The word *χοάνιον* is new. It could be derived from either *χόανος* or *χοάνη* (with a diminutive sense?), but in the present context the latter source and the simpler meaning 'funnel' seems preferable, as for *χώνη* in Stele II, line 201.

Terracotta funnels or funnel-vases are very common in Bronze Age remains.⁶ Numerous different types exist, including the familiar conical 'filler vase,' the 'ostrich-egg' shape and its variants, the 'peg-top' vase with relatively wide mouth, bulging body, and distinct spout, and an impressive range of more specialized forms. Among these last are the oddly constructed funnels from Mycenae with inturned rim and a spout which extends upward into the bowl (to help purify the liquid by holding inside the bowl the sediment as it settled?).⁷ Much like modern funnels are a specimen found at Palaikastro (L.M.I?) with convex bowl and long, distinct spout,⁸ and one from Tell Abu Hawam (L.H. III B) with a distinct, cylindrical spout.⁹ Still more remarkably like the classical type of Greek funnel is a large E. H. specimen of coarse house-

¹ *Χοάνη* (*χώνη*): Liddell-Scott-Jones, *s.v.*; E. Saglio, *Dictionnaire*, III, p. 516, *s.v. Infundibulum*.

² *Χόανος* (*χῶνος*): Liddell-Scott-Jones, *s.vv.*

³ *Ibid.*, *s.vv. χοάνη*, II and *χόανος*, II.

⁴ E. g., *χοάνη*, Aristophanes, *Thesm.*, 18-19; *χώνη*, Pherekrates, Frag. 108, lines 30-31 (Kock).

⁵ E. g., *χοάνη*, *I.G.*, I², 313, line 127, and 314, line 144 (same entry repeated); *χώνη*, clear and nearly complete in Stele II, line 201 (on the correctness of the form in Attic, see H. van Herwerden, *Lexicon suppletorium et dialecticum*², Leiden, 1910, *s.v. χῶνα*). On the archaic black oinochoe Louvre F. 339, with the potter's signature *Λυσίας μεποίησεν*, followed by the puzzling word *ἡμιχόνει* (given in the *Lexicon* as *ἡμιχώνη*, "half-*χώνη*"), see Beazley, *A.B.V.*, p. 446, middle, no. 1: "The latter part of the inscription may be for *ἡμιχουν ει(μ)*, the writer having reached the end of his space before he could complete the verb"; *id.*, *V.P.*, p. 5, note 1; Nachod, *R.E.*, XIII, 2, cols. 2543-2544, *s.v. Lysias*. The vase is actually of half-chous capacity; cf. Nachod, *loc. cit.*

⁶ E. g., Saglio, *loc. cit.*, G. Karo, "Minoische Rhyta," *Jahrb.*, XXVI, 1915, especially pp. 265-270; Evans, *P.M.*, II, p. 225; F. Stubbings, *B.S.A.*, XLII, 1947, pp. 55-58; C. W. Blegen, *Prosymna*, II, Cambridge, 1937, pl. 63, fig. 261, no. 1056; pl. 168, fig. 271, no. 1002; pl. 190, fig. 726; etc.

⁷ Wace, *B.S.A.*, XLIX, 1954, p. 239, pl. 37, b.

⁸ *B.S.A.*, Supplementary Paper No. 1, 1923, pp. 72-73, fig. 58, b.

⁹ A. Furumark, *Mycenaean Pottery*, Stockholm, 1941, p. 618, Form 53; R. W. Hamilton, *Q.D.A.P.*, IV, 1935, p. 39, pl. 16, no. 236.

hold ware, found recently at Rafina in eastern Attica and now in the National Museum at Athens.^{9a}

For the historic Greek period, surprisingly few clay funnels are known which date before 300 B.C., but the scarcity of evidence for this interval is no doubt accidental, for examples are plentiful in the Athenian Agora from the Hellenistic period down to the fifth century after Christ. Fragments of two late archaic pieces were found in the Agora,¹⁰ and one comes from a late fifth-century well at Corinth.¹¹ Both of the two previously published examples are very fragmentary, but the essentials of their shapes have been made out and restored in plaster. The archaic specimen has a fairly shallow bowl with incurving rim, and a broad, short spout, and measures 0.295 m. across the top. The fifth-century funnel at Corinth is of remarkably similar size and shape, but more fragmentary. No handle is preserved in either case, but handles become standard on later examples. Yet another specimen (Pl. 49, f),¹² from an early fifth-century context, has the sturdy look of the sixth-century funnel published by Vanderpool. The Agora excavations have also yielded a large number of funnels, Hellenistic and Roman, which tend to be of a basically similar type, though of course with variations.¹³ Perhaps the most important feature of all these funnels is that they were made for use and not for show. Two of the earlier ones are glazed inside and out, but all the others are quite plain, either unpainted or very simply banded, and the fabric is generally coarse. It is hard to believe, therefore, that our fifth-century funnels could have sold for very much, whatever their size.

Clay funnels of Roman times are also known from other sites, e. g., those cited by Saglio,¹⁴ who also mentions specimens made of bronze and of other materials and illustrates an unusually elaborate combination of funnel and strainer.¹⁵ In the inscriptions we find mention of funnels apparently of iron,¹⁶ of bronze,¹⁷ and of some

^{9a} Briefly mentioned, Τὸ Ἔργον τῆς Ἀρχ. Ἐτ. κατὰ τὸ 1954, p. 31. For another striking parallel from the same site, see above, p. 232, note 117, on *Gastroptes*.

¹⁰ E. Vanderpool, *Hesperia*, VII, 1938, p. 401, no. 40, fig. 23 (Agora P 11966) with mention of fragments of another, larger example (Agora P 6124), thinner-walled, with rather more defined curves; black, except for reserved band at top of bowl. Early fifth-century context.

¹¹ M. Z. Pease, *Hesperia*, VI, 1937, p. 304, no. 204, fig. 32.

¹² Agora P 6646 (shape fully preserved: H. 0.235 m.; L. of spout 0.090 m.; max. diam. 0.325 m.; diam. of mouth-opening 0.255 m.; diam. of spout (outside) 0.070 m.; (inside) 0.053 m.; no handle; decorated inside and out with bands of thin brown-black glaze.

¹³ These will be published in G. R. Edwards, *Athenian Agora, Hellenistic Pottery* and H. S. Robinson, *Athenian Agora, V, Pottery of the Roman Period*, F63, F64, pl. 2; M9, M119, pl. 18. For one of the Hellenistic funnels, see H. A. Thompson, *Hesperia*, III, 1934, p. 418, no. E 136.

¹⁴ Saglio, *loc. cit.*, note 8.

¹⁵ *Ibid.*, fig. 4064; other examples are cited. Cf. D. K. Hill, *J.W.A.G.*, V, 1942, p. 47 and note 20, for a fuller list and a discussion of the type (Etruscan).

¹⁶ *I.G.*, 313, line 127 and 314, line 144.

¹⁷ Dittenberger, *Syll.*³, 945, line 7 (χώρα), from Assos.

unspecified material.¹⁸ Leaden funnels seem not to be mentioned, but a roughly shaped conical specimen in this material has been found in England in a potter's factory of Roman date.¹⁹ The price of the (small?) leaden *χοάνιον* in Stele II, lines 57-58 (if this is the only item included in the price) is, at 2 drachmai 2 obols, remarkably high for an object of this type.²⁰ Possibly something else was included in this price.²¹

Representations of Greek funnels in use are rare, but they do appear in three vase-paintings, all of which seem to be concerned with the sale of perfumed oil (*myron*).²² In each case, the funnel is used to dip the oil from a pelike for transference into a smaller container (lekythos twice, alabastron once). (1) The most familiar example is the scene on a black-figured pelike in the Vatican, famous also for its inscriptions.²³ Here, the seated vendor has dipped his funnel into a pelike and holds his little finger under the spout while making ready with the lekythos. The funnel has a shallow, curving bowl with a handle opposite the side held by the user, and a short, narrow spout. (2) On another black-figured pelike, Tarquinia RC 1063,²⁴ a similar funnel (but with offset rim) is held, handle toward the user, in his *left* hand, his little finger extended under the spout, while he reaches with his right hand toward a customer; behind, another man comes up with a lekythos. Although the funnel has been mistaken for a cup or a kotyle, there can be little doubt of its identity.²⁵ (3) On

¹⁸ *I.G.*, II², 1672, lines 176-177.

¹⁹ T. S. May, *Catalogue of Roman Pottery in the Colchester and Essex Museum*, Cambridge, 1930, p. 262, pl. 79,32.

²⁰ See below, p. 281.

²¹ M. Lang suggests reading *χοάνιον μολυβδοῦν* [σωλή]νος, i.e. a leaden funnel to conduct water into a pipe from a channel of larger diameter. A leaden funnel-shaped object, found at Delos, was used as a water-pipe adapter. The bowl is approximately hemispherical, the spout straight and broad. H. 0.195 m.; top diam. 0.260 m.; outer diam. of spout at end, 0.065 m. Cf. *Délos*, VIII, 2, p. 341, fig. 206. Not weighed but it felt as if it might weigh around 15 pounds. Still larger ones than this, in poor condition, were observed in the apotheke of the Delos museum.

This is an attractive proposal, even though the date of the Delian objects is too late to provide the sort of direct evidence that we should like to have. Leaden pipe was apparently not in large-scale use in the fifth century B.C., but there is no reason to deny the possibility that leaden funnels leading to terracotta pipes may have existed. It is still puzzling, however, why the word *choanion* would have been used for such an object.

²² See above, p. 213. There are problems of interpretation in some details. See Cloché, *Classes*, pp. 82-84; F. J. M. de Waele, "La représentation de la vente de l'huile à Athènes," *Rev. Arch.*, XXIII, 1926, pp. 282-294; B. Laum, "L'essai et la vente de l'huile sur les vases peints," *Rev. Arch.*, XXVII, 1928, pp. 233-239; H. Bloesch, *Antike Kunst in der Schweiz*, Erlenbach-Zürich, 1943, pp. 67-69, 172 f., pls. 36-37.

²³ C. Albizzati, *Vasi antichi del Vaticano*, Rome, 1925, no. 413, pl. 61; O. Waldhauer, *Arch. Anz.*, 1927, cols. 71-74; Cloché, *Classes*, pls. 32, 2 and 33, 1; D. von Bothmer, *J.H.S.*, LXXI, 1951, p. 43, no. 41.

²⁴ G. Iacopi, *C.V.A.*, Museo Nazionale Tarquiniense, 2, III H e, pl. 36, p. 11; Cloché, *Classes*, pl. 33, 2 (drawing), p. 82; de Waele, *op. cit.*, pp. 285, 287, figs. 2-3 (drawings).

²⁵ Iacopi, de Waele, Cloché, *locc. cit.* What was taken to be the foot must be the user's finger;

the third vase, a red-figured pelike in Marburg,²⁶ of about mid-fifth-century, the form of the funnel is not quite so clear, but much the same kind of operation is in progress (funnel in *left* hand, as in no. 2; *thumb* under spout?). All these funnels are quite small, but we are unable to determine of what material they are made.

2. SIEVE (KOSKINON)

(V, 81)

The various objects which were used for sifting meal are treated by Pollux in two main passages.²⁷ From his words and from ancient sources it appears that the usual kind of sieve was called a *κόσκινον*,²⁸ and that this implement was ordinarily made of basketry (*ἐκ σχοίωνων πλέγμα*). For convenience, however, it is treated here rather than in section VI or VIII, even though this arrangement is not strictly logical.

In the Stelai, the word *κόσκ[ινον]* appears only once (V, line 81); the price is not given. The context includes, appropriately, other objects used in the preparation of cereals, the *onos aleton* and the *hypera*.²⁹ This lone entry may be supplemented by Pollux's statement: ³⁰ *Καὶ ὡς ἐν τοῖς Δημοπρατοῖς ἀναγράφεται, κόσκινον κριθοποιόν*, which must refer to a passage in the Stelai that is no longer extant.³¹ The word *κριθοποιόν* occurs only here,³² but it should mean, 'having to do with the preparation of barley.'³³

Since the *koskinon* was properly an object of basketry, found in everyday use, it is perhaps not surprising that there seems to be no mention of it in the temple inventories, although we do find other basketry shapes, translated into metal; nor is it likely that many of the extant objects of terracotta or metal with perforations in them can rightly be called *koskina*. Although the word 'sieve' is sometimes loosely applied to such things, they seem better adapted to other uses than sifting dry

there is but one handle; and the part evidently thought to be the stem of a small cup (scarcely a kotyle!) is the spout of the funnel.

²⁶ F. Brommer, *Antike Kleinkunst in Schloss Fasenerie (Adolphseck)*, Marburg, 1955, fig. 15; *id.*, *C.V.A.*, Schloss Fasenerie, 1, pl. 32, 1-2.

²⁷ Pollux, VI, 74 and X, 114.

²⁸ *Κόσκινον*: Liddell-Scott-Jones, *s.v.*; E. Saglio, *Dictionnaire*, I, p. 1568, *s.v. Cribrum*; Hug, *R.E.*, XI, 2, 1922, cols. 1483-1484, *s.v. κόσκινον*; Blümner, *Technologie*, I², pp. 49-55.

²⁹ Stele V, lines 83-84. On these entries, see Pritchett, Part II, pp. 298 f., and above, pp. 238 f.

³⁰ Pollux, X, 114.

³¹ The words in lines 80 and 82 are mutilated beyond recognition, but neither of them could have been *κριθοποιόν*; nor it is likely that so long a word could have stood after *κόσκινον* in line 81.

³² It is not listed in Liddell-Scott-Jones, nor in any other Lexicon that I have consulted.

³³ Not necessarily the sifting of barley meal, which was properly called *τὰ ἀλφιτα*. Cf. *ἀλφιτοποιεῖν*, Suidas, *s.v. τῆλῖα*. Perhaps a sieve for winnowing barley to remove the chaff before grinding the meal? On this passage, see also Pritchett, Part II, p. 319.

materials.³⁴ Representations of the koskinon are, however, easy to find. In addition to the illustrations from Roman times which have been collected,³⁵ there are several good pictures of Greek koskina. For example, on the two early Hellenistic Megarian bowls in the Louvre and in Athens (replicas from one mould) showing in relief a bakery scene, one of the figures is sifting flour through a sieve (tilted forward, so as to show the crisscross lines indicating the mesh) into a large *kardopos* (see above, pp. 239-241).³⁶ Archaic representations also exist among the numerous terracotta groups of figures occupied with different phases of bread-making, an artistic subject of great antiquity, with antecedents going back at least to the Middle Kingdom in Egypt.³⁷ The most elaborate of the Greek terracottas are two groups in the National Museum in Athens, in one of which a woman carries a large, bowl-shaped sieve (Pl. 50, a).³⁸ A smaller group, in the Metropolitan Museum of Art in New York, which consists of only two figures, shows one woman grinding the meal, the other sifting it through a sieve in the form of a flat, perforated disk surrounded by a vertical rim.³⁹ It seems likely, too, that the koskinon is represented in vase-paintings, in Attic black-figure scenes of wedding processions, in which the female attendants often carry on their heads, among other things associated with weddings, a flat, cylindrical, basket-like object which has been identified, perhaps correctly, as a koskinon.⁴⁰

The price for a koskinon is given in a Delian inscription of the third century B.C.⁴¹ as 1 drachme 2 obols. Prices for koskina are also preserved in the Edict of

³⁴ Cf. below, pp. 261 ff.

³⁵ Saglio, Blümner, and Hug, *locc. cit.* See these sources also for the various specialized names for sieves, in addition to *koskinon*.

³⁶ M. Rostovtzeff, *A.J.A.*, XLI, 1937, pp. 86-96, figs. 1 and 2, b; F. Versakis, *Ἐφ. Ἀρχ.*, 1914, pp. 50-57, fig. 3.

³⁷ Cf. Singer, Holmyard and Hall, *Hist. of Tech.*, I, p. 275, fig. 175; also p. 422.

³⁸ Blümner, *Technologie*, I², p. 62, fig. 24. See above, p. 234.

³⁹ H. McClees, *Daily Life of the Greeks and Romans*, New York, 1933, p. 41, fig. 50.

⁴⁰ Cf. Lullies, *C.V.A.*, Munich, i, p. 12, pl. 9, 4 (*A.B.V.*, p. 297, no. 11: Painter of Berlin 1686), with other examples cited. In most of these scenes the object appears in conjunction with other nuptial accessories, most notably the *liknon* or winnowing fan. Cf. especially *C.V.A.*, British Museum, 3, III H e, pl. 31, 5 b (*A.B.V.*, p. 141, no. 1: Group of London B 174) and *C.V.A.*, Louvre, 6, III H e, pl. 65, 1 (*A.B.V.*, p. 304, middle, no. 1: Painter of Louvre F 42). On the association of the *liknon* with weddings, see J. Harrison, *J.H.S.*, XXIII, 1903, pp. 315-316, who quotes Walters' interpretation of the "flat-shaped vessel" shown on the British Museum vase as a sieve, but concludes that "as we do not know the exact shape of the Greek sieve, it is perhaps safer to interpret (the object) as merely a basket (*κανοῦν*)." Other writers (e.g., Bobart, *Basket-work*, pp. 35-37; Pottier *ad C.V.A.*, *loc. cit.*) have also preferred either *κανοῦν* or *κίσπη*. But the shape suits very well what we now know of the koskinon, and the situation agrees well with Pollux's statement (III, 37), ὑπερον δὲ ἐξέδουν πρὸ τοῦ θαλάμου, ὥσπερ καὶ κόσκινον, ἢ παῖς ἔφερεν, σημεῖα, ὡς εἰκός, αὐτουργίας, even though the passage may be corrupt. Therefore it seems at least a good possibility that these are *koskina*.

⁴¹ *I.G.*, XI, 2, 159, A, line 40.

Diocletian.⁴² The passage is in fragmentary state, but what remains fixes the maximum price for a coarse leather sieve for threshing (κόσκινον ἄλωνικὸν ἀπὸ βύρσης) at 250 denarii, for a fine leather sieve for sifting a superior grade of flour (κόσκινον ἀπὸ δέρματος σιμιδάλια)⁴³ at 400 denarii, and for a large basketwork sieve (κόσκινον πλεκτὸν μέγα) at 200 denarii. From these prices we can infer that, even in the centuries following the time of the Stelai, prices of ancient basketry remained high in relation to those for containers made of other materials (see below, pp. 285-286).

What emerges from the evidence given above is a reasonably clear picture of the usual form of the koskinon. It is a flat disk of basketwork or other plaited material, surrounded by a relatively low vertical rim, so that the whole has the appearance of a shallow cylinder with open top. The size must have varied according to purpose, but the illustrations suggest a usual diameter of some 30 to 50 cm.

3. (H)ETHMOS (IN POLLUX)

The need for strainers and colanders ('drainers') of various kinds is present, and provided for, in all civilizations. It would be surprising indeed if nothing of this sort had been listed in the Stelai, and, although no such entry is extant, Pollux gives evidence for the occurrence of at least one item of this kind, in a passage of the Stelai now lost to us.

(H)ethmos.⁴⁴ Pollux, X, 108: Σκεῦος δὲ μαγειρικὸν καὶ ἥθμος, Εὐριπίδου ἐν Εὐρυσθεὶ σατυρικῷ (Fr. 374) εἰπόντος

————— ἢ κύαθον ἢ χαλκήλατον
ἥθμον προσίσχιον τοῖσδε τοῖς ὑπωπίοις

Ἐν μέντοι δὲ τοῖς Δημοιοπράτοις ἥθμος τις ἐπικρητηρίδιος πέπραται, ὃς ἴσως περὶ τὸν οἶνον μᾶλλον προσήκει.

Pollux is, initially, concerned with cooking wares, although he is led astray by the sources which he quotes. Terracotta strainers, which seem well adapted for use in the kitchen, have been found occasionally in excavations, but they must have been far more numerous than the scanty remains would suggest. It seems safe to assume that

⁴² Col. XV, 56-61.

⁴³ Not necessarily 'finest meal,' as translated in T. Frank, *Economic Survey* V, p. 367, and in Liddell-Scott-Jones, *s.v.* σιμιδαλίτης, if we are to believe Galen (*De alim. fac.*, 1) who puts ἄρτος σιλιγνίτης first, after it σιμιδαλίτης.

⁴⁴ ἥθμος: Liddell-Scott-Jones, *s.v.*; E. Saglio, *Dictionnaire*, I, pp. 1331-1333, *s.v.* Colum; Richter, *Metropolitan Museum of Art: Greek, Etruscan, and Roman Bronzes*, pp. 229-232, and the references there cited; D. K. Hill, "Wine Ladles and Strainers," *J.W.A.G.*, V, 1942, pp. 40-45, a fully documented and well illustrated study of the types. On the aspirate, which is usually lacking in the literary MSS, see Liddell-Scott-Jones, *s.v.*, and Meisterhans, *Grammatik*³, p. 102, Sec. 38.

any such object could have been called a *ῥηθμός*, whether used for straining or for draining.⁴⁵ There is, as one would expect, considerable variety in the form of these objects. The example from the Agora which is shown here (Pl. 49, g)⁴⁶ is of unusual interest because of its very adaptable form, useful either for straining liquids into a pot or for draining solids and then drying them over a fire, for which the generous handle would be an added convenience. This object may have had a more specialized name, but *ῥηθμός* seems ideally appropriate to it. Others would seem to have had more limited or specialized forms.⁴⁷

In another passage, too, Pollux⁴⁸ mentions the *hethmos* among utensils for cookery, but the entry quoted from the *Demioḗrata* must, as Pollux inferred, apply rather to a wine-strainer. The word *ἐπικρητηρίδιος*,⁴⁹ which occurs only here, indicates that this strainer was of a kind which fitted over the mouth of a krater, so that the wine could be strained through it into the krater. In Pollux's quotation from Euripides, which concerns the treatment of a bruise or a black eye with cold metal, the *hethmos* must also be a wine-strainer, but in this case the sort which was used to strain the wine into a kylix, as is shown by the juxtaposition of *kyathos*, the ladle used for dipping the wine out of the krater and pouring it into the cup.⁵⁰

Of the two kinds of wine-strainer distinguished above, the latter is well known not only from representations of it on Attic red-figured vases, where it appears in

⁴⁵ The word 'sieve,' which is properly applied to things used for sifting dry substances, is of course inappropriate here, although it is widely so used. We should not call either 'sieves' or 'strainers' a class of familiar, widespread objects of lead or bronze, pierced and of rectangular shape, for these have been clearly identified, on excellent evidence, as cheese-graters; see especially P. Jacobsthal, *Ath. Mitt.*, LVII, 1932, pp. 1-7; *Olynthus*, X, pp. 191-193, nos. 600-608, pls. 48-49, and the references there cited. The globular vases with perforated bottoms like that in *C.V.A.*, Robinson Collection, III, pl. 3, pp. 12-14 (with literature, and a list of examples), are not 'sieves,' but strainers or sprinklers of some sort; it is doubtful, too, whether they could have been called *ῥηθοί*.

⁴⁶ Agora P 16387. Restored H. to lip, 0.087 m.; max. diam. 0.172 m. Part missing, and restored in plaster, but the shape well established (except for the bottom, which probably should be flatter). Coarse cooking ware fabric, reddish clay with grits, the bottom blackened by contact with fire. Squat body with curving bottom, low conical upper part, with widely flaring lip and vertical strap handle rising above lip. Bottom pierced with many small holes, up to sharply angular juncture with upper part of body. Mid-fourth century context.

⁴⁷ Cf., e.g., the bowls or disks with holes in the bottom. Mycenaean: O. Broneer, *Hesperia*, VIII, 1939, pp. 400-401, fig. 83, a-e. Archaic: E. Vanderpool, *Hesperia*, VIII, 1939, p. 263, no. 24, fig. 18. Similar, from Olynthos: *Olynthus*, XII, pp. 288, 291; XIII, 1950, p. 420, nos. 1053-1055, pl. 253. Other types: Vanderpool, *Hesperia*, XIV, 1946, pp. 324-325, no. 282, pl. 16, with references there cited; *Olynthus*, XII, p. 317, XIII, p. 413. Cypriote strainers: *C.V.A.*, Louvre, V, II c b, pl. 11, 23/27; H. B. Walters, *Catalogue of the Greek and Etruscan Vases in the British Museum*, I, 2, London, 1893, p. 206, fig. 352, no. c-1000. Etruscan: *C.V.A.*, Copenhagen, V, pl. 222, 7-9.

⁴⁸ Pollux, VI, 89.

⁴⁹ Cf. Liddell-Scott-Jones, *s.v.*; and see Pritchett, Part II, p. 318.

⁵⁰ On the meaning of this passage, see M. Crosby, *A.J.A.*, XLVII, 1943, p. 213. Cf. also Pherekrates in Athenaeus, XI, 480 b (Frag. 145 Kock); Aristotle, *H.A.*, IV, 8.

banquet scenes in association with the krater, the kyathos, and the oinochoe,⁵¹ but also from numerous examples of the object itself, which clearly have the shape demanded by the vase-pictures.⁵² An unusually fine example is provided by the matching silver ladle and strainer which were published, with an excellent commentary, a few years ago by Margaret Crosby.⁵³

The other kind, the ἡθμός τις ἐπικρητηρίδιος, about which Pollux is understandably vague, has been more elusive; it seems not to have been recognized in any extant specimens of strainers. Its existence is, however, corroborated by inscriptions which mention a κρατήρα καὶ ὑποκρητήριον καὶ ἡθμόν;⁵⁴ an ἡθμός κρατήρος Λακωνικοῦ;⁵⁵ and an ἡθμός ἀπὸ κρατήρος συντετριμμένος.⁵⁶ R. Zahn long ago⁵⁷ connected these epigraphical passages with Pollux's ἡθμός ἐπικρητηρίδιος, and proposed, as an illustration of an oinochoe resting on the (invisible) strainer inside the mouth of a krater, the medallion picture of a black-figured Laconian kylix in London.⁵⁸ From this evidence, taken altogether, we may suppose the hethmos epikreteridios to have been a wide, shallow strainer, either without handles or with one or two side handles, and broad enough for its rim to have been supported by the rim of its krater. We need not go far to find candidates for admission into this class. The most impressive examples, as Miss Dorothy Hill has pointed out to me, are the strainer-lids for the big krater from Vix⁵⁹ and one of those from Trebenischtche.⁶⁰ Yet another object which admirably

⁵¹ D. K. Hill (*op. cit.*, p. 52, note 37) gives a list of illustrations of strainers which appear in Attic red-figure. They include works of the Brygos Painter ("a" and "e": *A.R.V.*, p. 253, no. 129, and p. 247, no. 21; Miss Hill's "g" is the same vase as her "e": read "Hartwig, pl. 34"); Makron ("b": *A.R.V.*, p. 306, no. 83); Douris ("c": *A.R.V.*, p. 284, no. 54); the Foundry Painter ("f": *A.R.V.*, p. 264, no. 11); the Painter of the Louvre Symposion ("d": *A.R.V.*, p. 664, no. 2) and the Dinos Painter ("h": *A.R.V.*, p. 790, no. 6). Details of "b" and "a," Hill, *op. cit.*, pp. 44-45, figs. 4, 5. Cf. also the Etruscan wall painting in the Tomba dei Vasi Dipinti at Tarquinia: P. Ducati, *Mon. della Pittura Antica, Tarquinii*, I-II, pl. VI, 1; detail Hill, *op. cit.*, p. 43, fig. 3.

⁵² Cf. Saglio, Richter, Hill, *loc. cit.* Especially close to those shown in the vase-paintings, with suspension hook at end of handle, is the archaic inscribed example from the Argive Heraeum, C. Waldstein, *The Argive Heraeum*, II, Boston and New York, 1905, p. 297, no. 2239, pl. 125. For combination sieve-funnels, see above, p. 257.

⁵³ *A.J.A.*, XLVII, 1943, pp. 209-216.

⁵⁴ Dittenberger, *Syll.*³, no. 2; Roehl, *Inscriptiones Graecae Antiquissimae*, Berlin, 1882, no. 492. The word is aspirated in this inscription (see above, note 44), apparently also in *I.G.*, II², 1416, lines 10-11.

⁵⁵ *I.G.*, II², 1694, lines 5-6.

⁵⁶ *I.G.*, XI, 2, 161, C, lines 71-75; 164, B, line 27 and 199, B, line 84. Cf. *B.C.H.*, XIV, 1890, p. 415. The same inscriptions also list an ἡθμός ἐν ξύλῳ δεδεμένος, that is, a strainer with a wooden rim.

⁵⁷ R. Zahn, *Ath. Mitt.*, XXIV, 1899, p. 343, note 1.

⁵⁸ British Museum B 3: *Arch. Zeit.*, 1881, pls. 12, 1; 13, 1 and 4; Pfuhl, III, fig. 196; *B.S.A.*, XXIV, 1933-34, pl. 46, a.

⁵⁹ Rene Joffroy, "Le Trésor de Vix (Cote d'Or)," *Mon. Piot*, XLVIII, 1, Paris, 1954, pls. 16-18.

⁶⁰ Joffroy, *op. cit.*, pl. 19.

fits these requirements was found in the Bernardini Tomb at Praeneste.⁶¹ It is part of a silver set, consisting of a bowl or lebes with a "lid in the form of a strainer" and a ladle. The strainer, which has a small, hook-shaped side handle, a wide, flat rim, and a central depression in two degrees, the lower one perforated, must also be that which we are seeking, a hethmos epikreteridios. Strainers of this kind have such obvious utility that they must have been very common. There is little doubt that a further search, with these identifications in mind, would produce other examples.

VIII. BASKETRY AND WICKERWORK

Basketwork¹ is one of the oldest human industries associated with settled community life. In most cultures, its origin is believed to antedate even the beginnings of pottery, hence to have appeared, at the latest, in a very early stage of the Neolithic. In Mesopotamia and in Egypt, the process of plaiting twigs, reeds, bark and other pliant materials to form mats and containers was known from a very early date, and many actual specimens of Egyptian basketry have survived.² In Greece, where the climate does not favor the survival of objects made of vegetal matter, no existing examples of basketry are known, but this loss is partly offset by vase-paintings and other representations which bear witness to the existence there of baskets in a profusion of sizes and shapes. The literature, too, is full of words signifying baskets of various kinds, some of which terms were adopted, with little or no change, into Latin, and have passed into modern languages. These sources show us that basketwork had an important place in the equipment of an ancient Greek household.

Identification by name of specific types of baskets is, however, in most cases very difficult because, as is often the case in Greek terminology, usage and definition both tend to explain the objects functionally but not descriptively. Some of the commoner words, also, seem more generic than specific, and indeed appear to have served frequently as synonyms for one another. The generic English word, "basket," would offer much the same sort of problem if one were faced with the task of describing the object whenever the name appears in literature. Therefore our tentative efforts to visualize as particular kinds of basketry the objects named in the Stelai can be

⁶¹ C. D. Curtis, *M.A.A.R.*, III, 1919, p. 49, no. 30, pl. 26, 1-3. Cf. Hill, *op. cit.*, p. 49 and note 27.

¹ For ancient basketry, see especially Bobart, *Basketwork*, pp. 1-52; Blümner, *Technologie*, I², pp. 293-312; Singer, Holmyard and Hall, *Hist. of Tech.*, I, pp. 413-424. This chapter owes much to the assistance of Miss Diane Aller.

² Bobart, *Basketwork*, pp. 11-15. Disappointing to H. Capart (*Chronique d'Égypte*, XI, 1936, pp. 441-2), as it would doubtless be to any Egyptologist. The great number of representations in Egyptian art which show baskets in use offers a fruitful field for drawing comparisons with the Greek, but the opportunity must here be regretfully put aside.

expected to meet with obstacles. Yet, in spite of these difficulties, much can be learned by careful study of the sources and the monuments. This chapter is offered more as a beginning than as an accomplishment, but some progress will be evident, it is hoped, toward the solution of the problems raised by those particular basket terms which appear in the Stelai.

All of the extant passages which concern basketry appear in Stelai I, II, and V. Several of them are treated elsewhere in the commentary. Pritchett discusses *κάννα* ('reed mat') and *ψίαθος* ('rush mat') in his chapter on Furniture;³ to these might logically have been added *γέρρον* (see below), which is also a mat. The *γαλεάγρα* ('weasel trap,' possibly of wickerwork) and the *πτέον* ('winnowing shovel') are in Pritchett's chapter on Tools.⁴ *Κόσκινον* ('sieve') and *σταφυλοβόλος* (just possibly a kind of basket) appear elsewhere in Part III.⁵ The following account deals with the rest of the objects listed in the Stelai (chiefly containers) which were or might have been made of basketry.

1. GERRON

(II, 124)

The word occurs only this once, where three *γέρρα* are listed in the same line with a *γαλεάγρα* (weasel trap; cf. above), and in a passage concerned with tools and various farming equipment. Prices for the individual items are not given.

This word, *γέρρον*,⁶ is first found in Herodotos,⁷ where it means a kind of shield used by the Persians. In late writers the material is described as wickerwork, but leather is also mentioned.⁸ It is used by Demosthenes⁹ for the screens of wickerwork found in the Athenian market-place. There appears also, however, to have been a more general sense, namely, for any kind of screen or cover, no doubt originally with reference to wickerwork or matting, but also stated to be of leather;¹⁰ or even

³ Pritchett, Part II, pp. 247, 254.

⁴ Pritchett, Part II, pp. 290, 299 f.

⁵ Above, pp. 259-261 and 249-250 respectively.

⁶ *Γέρρον*: Liddell-Scott-Jones, *s.v.*; Stephanus, *Thes.*, *s.v.*

⁷ Herodotos, VII, 61, 1; IX, 61, 3; 62, 2; 99, 3; 102, 2 and 3. Cf. Xenophon, *Cyrop.*, I, 2, 9, I, 1, 21; II, 2, 19; IV, 2, 22; Plutarch, *Arist.* 17 and *Aemil.* 32.

⁸ Defined in Eustathios, 1924 (*ad Od.*, XXII, 184) as *ἀσπίδες Περσικαὶ ἐκ λύγων καὶ οἰσύνῃσι*; in *Et. Mag.*, 228, 42, *Περσικὰ μὲν ἐστὶν ὄπλα, δερμάτινα κυρίως*. Both materials are mentioned in Suidas, *s.v.* *γέρρον* . . . καὶ ἀσπίδες Περσικαὶ ἐκ λύγων . . . τινὰ δὲ δερμάτινα σκεπάσματα καὶ Περσικὰ οἷς ἀντ' ἀσπίδων ἐχρῶντο. Both ways also in Bekker, *Anecd.*, I, τὰς πλεκτὰς ἀσπίδας καὶ οἷας αἱ Ἀμαζόνες γράφονται ἔχουσιν (p. 23) and εἶδος ὅπλου δερματίνου (p. 227).

⁹ Demosthenes, *Pro Ctes.* 284, 24; *In Neaeram*, 1375, 19. Similarly defined in *Et. Gud.*, 123, 57 (Stefani, p. 306); Bekker, *Anecd.*, I, pp. 23, 227; Eustathios, *loc. cit.*; Suidas, *s.v.* The material, again, is stated variously to be wickerwork or leather. See R. E. Wycherley, *J.H.S.*, LXXV, 1955, pp. 117-118; *Athenian Agora*, III, p. 191.

¹⁰ Cf. Hesychius, *s.v.* *Γέρρα*· τὰ σκεπάσματα πάντα ἢ τὰ δερμάτινα σκεπάσματα; Suidas, *s.v.* *γέρρον*·

for a rod or cane,¹¹ the basic unit of material for basketry. Other meanings of the word are not relevant, and need not concern us here.

The *gerra* of Stele II could hardly have been shields in the Herodotean sense; they might have been plaited mats, perhaps used for some purpose in the field;¹² or, more simply, 'matting,' for no specified purpose. The text gives us no means of determining their use, or of guessing at their particular material or their size.

2. ΚΑΝΑΥΣΤΡΟΝ

(I, 237)

The *καναύστρον* is mentioned only here, in a list of furniture and indoor furnishings. There were two (dual number, followed by two strokes),¹³ but the price is too badly mutilated to be of much use. The unit price was *at least* 1½ obols, but it may have been considerably more.

The usual and most persistent spelling of the word is *κάναστρον*.¹⁴ The form *καναύστρον* occurs only here. Pollux (X, 86) cites *κάναστρον* and *κάνυστρον* as if they both occurred in the Stelai. Whether this is a garbled reference to our entry, or whether one or both of the forms which he cites actually were used in the Stelai, one cannot say.¹⁵ The latter might be Pollux's error for *καναύστρον*,¹⁶ but *κάνυστρον* is found also in a popular poem quoted by Athenaeus,¹⁷ and it may have some validity. *Κάνυστρον*, which occurs in a late papyrus,¹⁸ is found also in one MS of Athenaeus¹⁹ in the poem mentioned above, and it offers the closest parallel to the regular Latin

... καὶ γέρρα τὰ σκεπάσματα πάντα Ἀττικοί. *Et. Mag.*, p. 228, 42: ἅπαν σκέπασμα εἴτε δερμάτινον, εἴτε ἐξ ἄλλης τινος ὕλης.

¹¹ Eupolis, Frag. 405 (Suidas, *loc. cit.*). Cf. *Et. Gud.*, p. 306: Δορικὸν σκέπασμα, ὕσσός, καὶ γέρρον οὐσύϊνον. Cf. also Boisacq, *Dictionnaire*⁴, s.v., who cites Hesychius s.v. γάρρα· ῥάβδος and s.v. γάρσανα· φρύγανα. Κρήτες.

¹² As sunshades, or shelters of some kind? Cf., again, Hesychius, s.v. γέρρα· τὰ ἀπὸ καλάμων ἢ παπύρων ἐργαστήρια.

¹³ Cf. Pritchett, Part I, p. 249. The entry should read *καναύστρο* II.

¹⁴ E. g., Collitz, *G.D.I.*, III, 2, 5087, line 9; *S.E.G.*, I, 414; Nicopho in Pollux, V, 86, and cf. X, 84, 85, 86, etc.

¹⁵ The end of Stele I has several other words which are apparently misquoted by Pollux; lines 217-218, 231, 233-234. On such inaccuracies, cf. Pritchett, Part II, pp. 324-327.

¹⁶ Pollux, X, 86: ἐν δὲ τοῖς Δημοπράτοις οὐ *κάναστρον* μόνον ἀλλὰ *κάνυστρον* εὐρίσκομεν. Would it be straining Pollux's language too far to suppose that he meant, not that both forms were found in the Stelai, but simply that, *instead* of the usual *κάναστρον*, we find *καν(α)ύστρον*?

¹⁷ Bergk, *P.L.G.*, III, p. 671, no. 41, 9 (see his *app. crit.*), in Athenaeus, VIII, 360 c. The word *κάνυστρον* in Bethe's text of Pollux, X, 164 is an emendation, having no manuscript authority.

¹⁸ *British Museum Papyri*, V, no. 1657, line 9.

¹⁹ Above, note 17; see Bergk's *app. crit.* Cf. also *κάνυστρον*, Hesychius and Photius, s.v.

form *canistrum*.²⁰ Although the word has different meanings (see below), these variations of spelling seem unrelated to such differences.

The original meaning of *κάνα(υ)στρον*, 'wicker basket,' seems well established by its etymology,²¹ but the object itself was often made of other materials. In fact, basketry is rarely indicated by Greek usage of the word,²² hardly more often for *canister* in Latin.²³ In some cases, where the material is not specified, a shallow dish of pottery or metal is nevertheless clearly intended.²⁴ The material of which our *kanaustro* were made is, therefore, not surely basketry; yet the fact that the entry is placed next to a *κάννα* suggests that these were probably wicker baskets.

Pollux and other late writers²⁵ include *kanastra* among the dishes used for serving delicacies at the table, in the company of *lekania*, *tryblia*, *oxybapha*, and the like. Although there is only one mention of a *kanastron* holding a particular substance (cheese),²⁶ its uses in general are well indicated by the sources. Whether of basketry or pottery or some finer material, it was a shallow dish or tray²⁷ used to serve various foodstuffs at the table. The Latin sources give *canistrum* as a container for bread, fruits, flowers, food in general, and sacrificial materials.²⁸

It is generally supposed, perhaps correctly, that *καναῦστρον* is synonymous with *κάνεον* (*κανοῦν*).²⁹ If this is so, the object should be much easier to identify archaeologically. The *κανοῦν*, from Homer (*κάνειον*) onward, was the familiar 'bread-basket' of the Greeks, also much used for carrying offerings and sacrificial implements.³⁰ Because of its religious uses, metal examples are often listed in temple inven-

²⁰ *Thes. L. L.*, s.v.

²¹ Cf. Boisacq, *Dictionnaire*⁴, s.v. *κάννα* (on which, see Pritchett, Part II, p. 247). The root, which is of Mesopotamian origin, has survived persistently; cf. modern Greek *κάνιστρον*, Italian *canistra*, Spanish *canasta*, English *canister*.

²² As in Pollux, X, 85: *φελλώδεις τινὲς πινακίσκοι*. Hesychius, s.v., equates it with *κανοῦν*, an object which is also often made of something other than basketry.

²³ As in Isidorus, *Orig.*, XX, 9, 8: *canistrum fissis cannis textitur*.

²⁴ Cf. Liddell-Scott-Jones, s.v., II: 'earthen vessel,' 'dish.' In *Homeri Epigrammata*, XIV, 3 (in Pollux, X, 84) pottery does seem to be meant; silver, rather, in Nicopho Frag. 24 (in Pollux, VI, 86; cf. VI, 84, *ἀργυροῦς ἢ χεῖματα ἀργυρᾶ*). Conversely, at the head of the entry, the *Lexicon* cites, for 'wicker basket,' Collitz, *G.D.I.*, III, 2, 5087, line 9 (line 10, rather), where the *κάναστρα* are mentioned in a list of *σκεῦα κεράμινα*; and *S.E.G.*, I, 414, line 6 ("dub."), where the word may instead be a geographical adjective, *καναστ[ραῖ]ον*. For the meaning, 'pottery dish,' add Hesychius, s.v. *κάναστρον*: *ὄστρακον, τρύβλιον, κανοῦν*.

²⁵ Pollux, VI, 86; cf. X, 84 ff. So, likewise, it is called a *τρύβλιον* by Hesychius (s.v.), Photius (s.v.), and Eustathios (1402, 29; *ad Od.*, I, 145).

²⁶ Bergk, *P.L.C.*, III, p. 671, no. 41, 9 (in Athenaeus, VIII, 360 c).

²⁷ E. g., Ovid, *Met.*, VIII, 675, *Fast.*, II, 650.

²⁸ Cf. *Thes. L. L.*, s.v.

²⁹ Liddell-Scott-Jones, s.v. *κάναστρον*; Petersen and Buck, *Reverse Index of Greek Nouns and Adjectives*, p. 314; A. Mau, *R.E.* III, cols. 1482-1483, s.v. *Canistrum*; Boisacq, *Dictionnaire*⁴, s.v. *κάννα*. Cf. Hesychius, s.v.

³⁰ Liddell-Scott-Jones, s.v. *κάνεον*; Mau, *R.E.*, loc. cit.; E. Saglio, *Dictionnaire*, I, pp. 890-891, s.v. *Canistrum, Canum* (where, however, *κάναστρον* is not mentioned).

tories,⁸¹ and basketry examples appear in many vase-paintings⁸² of the fifth century B.C. In general, the association of this material with the *καναύστρον*, if legitimate, would serve very well to clarify our impression of the object. From these illustrations, it should be a round, flat-bottomed basket, with straight but often slightly flaring sides, and a usual diameter of about 35-60 cm. There are, of course, other kinds of baskets which may qualify as *κανᾶ*,⁸³ but those cited here look best suited to everyday use. If our *kanaustro* are baskets of any sort, as the context suggests that they may be,⁸⁴ and if *κάναστρον* and *κανοῦν* may be taken as synonymous, this form has a good claim to being illustrative at least of the general type.

We have evidence elsewhere in the Stelai that good basketry was not cheap.⁸⁵ To this may be added the fact that an inscription of 329/8 B.C., from Eleusis, records the purchase of a ceremonial *κανοῦν* for 4 drachmai,⁸⁶ although it must be said that the material is not specified.

3. KISTE OISYINE

(II, 38)

When Nausikaa's mother packed her lunch for her,⁸⁷ including every sort of good food as well as dainties, she put it in a *κίστη*.⁸⁸ So, too, in Aristophanes the *κίστη* is mentioned more than once as a container for food (e.g., *ἐπὶ δειπνον τὰχὺ βάδιζε τὴν κίστην λαβὼν καὶ τὸν χόα*),⁸⁹ and the use of *κίστη* for a food basket is familiar also from other sources.⁴⁰ The name was applied, however, to objects serving a variety of

⁸¹ Frequently of gold, silver, and bronze in Attic inscriptions. Cf. also the large silver *κανοῦν* (2,029 drachmai) in a Delian inventory (Dittenberger, *Syll.*², 588, line 185), and the golden (?) *κανήια* in *I.G.*, XII, 2, 13, line 1.

⁸² E.g., on white lekythoi, such as Pfuhl, III, figs. 529 (*A.R.V.*, p. 640, no. 98, Achilles Painter), 530 (*A.R.V.*, p. 641, no. 104, Achilles Painter), 532 (*A.R.V.*, p. 467, no. 3, Inscriptions Painter), 534 (*A.R.V.*, p. 807, no. 1, Bosanquet Painter), 540 (*A.R.V.*, p. 782, no. 72, Painter of Munich 2335); and countless others. Often in Apulian r.-f., e.g., *C.V.A.*, Compiègne, I, pl. 22, 9.

⁸³ E.g., those with vertical projections rising from the base, which are especially common in cult scenes. A good example on the stamnos London E452 (*A.R.V.*, p. 669, no. 6, Eupolis Painter); but many are more elaborate than this.

⁸⁴ Cf. above, p. 267.

⁸⁵ Cf. below, on *kiste oisyine*, pp. 269, 271.

⁸⁶ *I.G.*, II², 1672, line 116.

⁸⁷ *Od.*, VI, 76.

⁸⁸ *Κίστη*: Liddell-Scott-Jones, *s.v.*; Boisacq, *Dictionnaire*⁴, *s.v.*; E. Fermique, *Dictionnaire*, I, pp. 1202-1205, *s.v. Cista, Cistella*; *Thes. L. L.*, *s.v. cista*.

⁸⁹ Aristophanes, *Ach.*, 1086. Cf. also *Ach.*, 1098, 1138 (*κιστίς*, for the same object as before); *Lys.*, 1184. For the custom according to which dinner guests brought their own provisions, the host furnishing the accessories, cf. Scholion on Homer, *Od.*, VI, 76; Richter and Hall, *R.-F. Ath. Vases*, I, p. 66 and note 1. See also E. Saglio, *Dictionnaire*, IV, pp. 1446-1447, *s.v. Spyris*.

⁴⁰ E.g., Pollux, VI, 13; X, 91 and 180; Hesychius and Suidas, *s.v.* So also *cista* in Latin: *Thes. L.L.*, *s.v. Pollux, locc. citt.*, speaks of a *κίστη ὀψοφόρος* and a *κίστη δειπνοφόρος*.

needs; to hold clothing,⁴¹ to hold the sacred objects⁴² or sacrificial offerings⁴³ in religious ceremonies, for the drugs peddled by witches,⁴⁴ for writing materials,⁴⁵ and even as a voting urn.⁴⁶ Of these uses, the first two—for food and for clothing—seem most likely to be relevant to the *κίστη οἰσύνῃ* in Stele II, line 38, which was sold for 3 drachmai 3 obols.⁴⁷

Although the term *κίστη* originally meant an object of basketry, it must often be understood as a container made of some other material.⁴⁸ Many representations of the so-called *cista mystica*, for instance, plainly show a container not made of basketry,⁴⁹ and Hesychius equates the word with *κιβωτός*.⁵⁰ But the material for our *kiste* is stated; it is made of osiers (*οἰσύναι*; cf. *λύγοι*) from the *vitex agnus castus*, a favorite material for wickerwork in both ancient and modern times.⁵¹

The probable form of this object, as well as its use, may be suggested in the numerous fifth-century representations of Greek basketry, found mainly in Attic vase-painting. Two principal types appear in association with food and banqueting: (1) a more or less hemispherical, or at times bell-shaped, basket, sometimes shown with tasseled string bindings, and usually having a cord for suspension (see type-drawings, Pl. 51, a)⁵² and (2) a roughly cylindrical form, with concave profile, often provided with animal-paw feet which look as if they might be of metal, and a rigid, semi-circular handle (see type-drawings, Pl. 51, b).⁵³ Since both of these types appear often

⁴¹ Pollux, VII, 179; X, 136 and 180; Hesychius, *s.v.*; Suidas, *s.v.* *κίστη καὶ κιστίς*.

⁴² E.g., Dittenberger, *Syll.*³, 786, line 30. Similarly in Latin, e.g., Catullus, LXIV, 259.

⁴³ E.g., Aristophanes, *Thesm.*, 284; Theokritos, XXVI, 7. Cf. below, note 63.

⁴⁴ E.g., Sophocles, *Frag.* 479, 5; Aristophanes, *Frag.* 28, in Pollux, X, 180; Theokritos, II, 161.

⁴⁵ E.g., Aristophanes, *Vesp.*, 529; cf. *Pax*, 666. So also in Latin; cf. *Thes. L.L.*, *s.v.* *Notiziario Archeologico*, IV, p. 20 (Cyrene, Augustan); and in Latin, cf. *Thes. L.L.*, *s.v.*

⁴⁶ *Notiziario Archeologico*, IV, p. 20 (Cyrene, Augustan); and in Latin, cf. *Thes. L.L.*, *s.v.*

⁴⁷ For the possibility that the price should be read as 4 drachmai 2 obols, see Pritchett, Part I, p. 257.

⁴⁸ Cf. E. Fermique, *loc. cit.*, whose main concern is with metal *cistae*, such as the so-called *cistae Praenestinae*. These must, however, go back to antecedents in basketry. Cf., e.g., *C.V.A.*, Villa Giulia, I, IV, Br. 3, 5 (Etruscan red-figure; Beazley, *E.V.P.* p. 100, bottom, no. 1), and Beazley, *E.V.P.*, pl. X, 3, p. 54. Yet another Etruscan example was used as an *ἀλαβαστροθήκη*; cf. above, p. 216 note 129.

⁴⁹ Above, note 38.

⁵⁰ Hesychius, *s.v.*; cf. Pollux, VII, 159 and X, 136. But see also Liddell-Scott-Jones, *s.v.*

⁵¹ Bobart, *Basketwork*, pp. 43-44; Blümner, *Technologie*, I², p. 302.

⁵² (a) Pfuhl, III, fig. 405 (Panaitios Painter; *A.R.V.*, p. 214, no. 11); (b) Pfuhl, III, fig. 422 a (Brygos Painter; *A.R.V.*, p. 248, no. 27); (c)-(d) Richter and Hall, *R.-F. Ath. Vases*, pl. 44, nos. 44, 50 (Brygos Painter; *A.R.V.*, p. 251, no. 75 and p. 252, no. 113); (e)-(f) *C.V.A.*, Villa Giulia, I, III Ic, pl. 11, 1 (Polygnotos; *A.R.V.*, p. 678, no. 9); (g) *C.V.A.*, Brussels, 3, III Ic, pl. 22, 1 (Epileios Painter; *A.R.V.*, p. 108, 5); (h) G. M. A. Richter, *Ancient Furniture*, Oxford, 1926, p. 69, fig. 185 (Douris; *A.R.V.*, p. 291, no. 174). These type-drawings of basket shapes and the others in this chapter were made by Mr. William M. Hill.

⁵³ (a) Pfuhl, III, fig. 468 (Douris; *A.R.V.*, p. 283, no. 47; perhaps there a writing-case); (b)

in banqueting scenes, we may, on the evidence of the literary sources,⁵⁴ be justified in thinking that either could be called a *kiste*. But there is still another kind of basket, shown frequently in the vase-paintings, which may have a good claim to this designation. This is the 'basket-chest,' a cylindrical basket with slip-on lid (see type-drawings, Pl. 51, c).⁵⁵ In the vase-paintings it is usually shown in completely flat profile, so that its round shape is not made clear; but there are examples, both in vase-paintings⁵⁶ and in terracotta reliefs,⁵⁷ which show enough of the form in perspective to indicate that it is round or at least oval. The designs on the vertical side make it plain that basketry is intended. The slip-on lid, which is being removed or replaced in some illustrations, may be generally inferred to be present even where its relationship to the lower part is not shown.⁵⁸ We have observed that the word *κίστη* is sometimes defined as a container for clothing.⁵⁹ The basket with slip-on cover appears in scenes having to do with women's indoor activities, where this use would be apt,⁶⁰ and where the use encourages the notion that this kind of basket, too, was called a *κίστη*.⁶¹ The definitions and use of *κίστη* are not sufficiently limiting to allow any really precise image to be formed, and we know that still other types of fifth-century basketry were called *κίσται*,⁶² hence that the term was, to a certain degree, generic.

C.V.A., Compiègne, pl. 17, 14 (Wedding Painter; *A.R.V.*, p. 605, no. 1); (c) Richter and Hall, *R.-F. Ath. Vases*, pl. 39 (Colmar Painter; *A.R.V.*, p. 229, no. 40); (d)-(e) E. Pottier, *Vases antiques du Louvre*, III, pls. 147, 148 (Penthesileia Painter; *A.R.V.*, p. 585, no. 49, and Manner of the Penthesileia Painter; *A.R.V.*, p. 589, no. 2).

⁵⁴ Cf. above, notes 39, 40.

⁵⁵ (a) *C.V.A.*, Oxford, 1, III I, pl. 34, 1 (Providence Painter; *A.R.V.*, p. 435, no. 67); (b)-(c) Richter and Hall, *R.-F. Ath. Vases*, pls. 146-147, nos. 145-146 (Washing Painter; *A.R.V.*, p. 742, no. 1, and p. 743, no. 5); (d) Richter, *Ancient Furniture*, fig. 244 (Washing Painter; *A.R.V.*, p. 743, no. 4); (e) Pfuhl, III, fig. 561, carried by standing Eros (Eretria Painter; *A.R.V.*, p. 726, no. 27); (f) *B.S.A.*, XI, 1904-1905, p. 242, fig. 4 (Attic, fourth century; K. Schefold, *Untersuch.*, p. 4, no. 3); (g) *C.V.A.*, Compiègne, pl. 22, 9 (Apulian); cf. *ibid.*, pl. 23, 12; (h) *Mon. Piot.* XXIV, 1920, pl. 13 (Campanian polychrome); (i) *C.V.A.*, Museo Campano, 1, IV Er, pl. 14, 4 (Campanian).

⁵⁶ See type-drawings, Plate 51, c, c, d, h, i.

⁵⁷ Richter, *Ancient Furniture*, p. 98, figs. 242, 245. In *ibid.*, fig. 63, the "chest containing Erichthonius (?)" appears to be a cylindrical, lidded basket, though shallower than the others; the round shape and the basket-work pattern are clearly shown.

⁵⁸ Cf., however, *ibid.*, p. 99, where lidless examples seem to be meant.

⁵⁹ See above, note 41.

⁶⁰ Especially in nuptial subjects, as in note 55, a, c, and e.

⁶¹ *Loc. cit.*, where Richter says that the baskets in these vase-paintings are "identical in form with the so-called *cista mystica* so dear to the hearts of the Greek religionists."

⁶² Such as the open-sided baskets for ceremonial use, frequently seen in Attic r.-f., e.g., Pfuhl, III, fig. 477 (Pan Painter; *A.R.V.*, p. 362, no. 14), out of which presumably developed the elaborate golden "processional baskets" of the later fifth and fourth centuries, e.g., Richter and Hall, *R.-F. Ath. Vases*, pl. 159, no. 160 (faintly visible in right-hand picture; manner of the Meidias Painter; *A.R.V.*, p. 838, no. 46) and plates 164-165, nos. 169-170 (Kertch ware; Schefold, *Untersuch.*, p. 37, no. 327, and p. 61, no. 593; attributed to the Pompe Painter). On the interpretation of these

About all that can be said of our *κίστη οἰσύννη* is that it may have been one of the domestic types described above. Its location in the list (between kneading basins and a corncrib) offers no significant help toward a narrower definition of the object. The price of 3 drachmai 3 obols suggests an object of high quality, but we have in the Stelai no other directly stated prices of basketry with which to compare it (cf. above, on *καναύστρον*, p. 266). A slight preference for identifying our kiste with a banquet-basket of one or another type may be justified by the fact that only late sources associate kistai with clothing, but this factor is scarcely decisive. Again, the price *may* favor the footed food basket, because of its elaborate construction and its possible use of metal attachments, but we are not really in a position to choose one type over the other.

4. KOPHINOS

(V, 87)

No price is stated in this one mention of a *κόφινος*[s].

The *κόφινος*⁶³ is a plaited basket⁶⁴ used chiefly for carrying burdens.⁶⁵ It is said to be synonymous with *ἄρριχος*,⁶⁶ and indeed its uses appear to be much the same. The etymology of the word is uncertain.⁶⁷

There is no direct evidence for the shape of a kophinos. In view of its utilitarian purposes, we might think of a fairly deep object, as is suggested also by the Boeotian practice of exposing defaulting debtors to ridicule by making them sit in the agora with a kophinos over their heads.⁶⁸ There is some indication of its size in the statement that the kophinos was a Boeotian measure of both wet and dry substances,

objects as baskets, and for other examples, see Richter and Hall, *op. cit.*, pp. 169-170, with references there cited. Miss Richter does not mention the simpler and earlier type, like the example first cited above, but its form and uses are so strongly similar that it should be the predecessor of the others.

⁶³ *Κόφινος*: Liddell-Scott-Jones, *s.v.*; Stephanus, *Thes.*, *s.v.*; Boisacq, *Dictionnaire*⁴, *s.v.*; E. Saglio, *Dictionnaire*, I, p. 1497, *s.v. Cophinus*.

⁶⁴ Cf. Pollux, VII, 173; Hesychius, *s.v. ἄρριχος*; Suidas, *s.v. κόφινος*; Isidore, *Orig.*, XX, 9; *Et. Mag.*, *s.v. Ἀρρίχων*. It is also mentioned often with other basketwork, e.g., Aristophanes, *Av.*, 1310; Pollux, I, 245; VI, 94 *et al.*

⁶⁵ For carrying manure: Aristophanes, Frag. 662 in Pollux, VII, 134; Xenophon, *Mem.*, III, 8, 6; Isidore, *Orig.*, XX, 9. For farm crops: Pollux, I, 245 and X, 129. For stones: Aristophanes, Frag. 349, in Pollux, VII, 162. Mentioned with farm implements: Theophrastos, *Char.*, IV, 11. For cleaning up the scraps after a banquet: Pollux, VI, 94. With *ἄρριχος* and *κάλαθος*, comically, as receptacles for the birds' wings in Aristophanes, *Av.*, 1309-1310, 1325.

⁶⁶ Liddell-Scott-Jones, *s.v. ἄρριχος*. Cf. Hesychius, *Et. Mag.*, and Moeris, *Att.*, *s.v.* In Aristophanes, *Av.*, 1309-1310, there is no necessary implication that the two words are synonymous (cf. above, note 65). The statement that *ἄρριχος* was preferred in Attic usage seems not to be borne out by the literary passages, for *κόφινος* is at least as common as *ἄρριχος*.

⁶⁷ Cf. Boisacq, *Dictionnaire*⁴, *s.v.*

⁶⁸ Liddell-Scott-Jones, *s.v. κοφινόμας*; Stephanus, *Thes.*, *s.v. κοφινώω*.

equivalent to three (Attic) choes, or about two gallons.⁶⁹ Surely not all kophinoi were of a standard size, but other evidence of relative largeness is seen in a fourth-century Eleusinian inscription recording the purchase of kophinoi at a usual price of one drachme each.⁷⁰ In another inscription,⁷¹ a distribution of largesse assigns to each person a kophinos of wheat and a hemi(na?)⁷² of wine. This much wheat, even as a generous gift, compares favorably with the Spartan soldier's daily ration (one choinix, or about a quart),⁷³ if the Boeotian measure is applied to this case. All of this evidence counts heavily against Jardé's suggestion⁷⁴ that the price named in Strattis⁷⁵ for barley meal, 4 drachmai the *kophinos*, may indicate a medimnus-sized kophinos. The allusion is puzzling, but Jardé's alternative proposal is better, that the text has some meaning which we cannot grasp (the author is a comic writer; the quotation is brief, and we cannot guess at the full context).

The identification of the kophinos with a particular type of basket found in ancient representations, as proposed by Saglio,⁷⁶ may be over-optimistic. This identification appears to rest mainly on analogies with similarly-named modern basketry (e.g., French *coffin*, *couffin*, Italian *cofino*), but this survival of the *word* offers no guarantee that what it designates has remained constant.⁷⁷ The type which Saglio calls a *κόφινος* occurs on a pelike in Cambridge, decorated by the Pig Painter,⁷⁸ and another, in Vienna, by the Pan Painter.⁷⁹ The shapes in these two cases are not quite the same, but in both a deep coil-basket seems to be meant. The baskets shown on a red-figured kylix in Copenhagen,⁸⁰ which Tillyard⁸¹ cites as analogous, are not exactly of this sort, being woven rather than coiled, but the shapes are quite similar.⁸² It is possible that baskets of this general kind were called kophinoi, but the real problem

⁶⁹ Strattis in Pollux, IX, 169; Hesychius, *s.v.* Cf. F. Hultsch, *Griechische und römische Metrologie*², Berlin, 1882, p. 542; Viedenbandtt, *R.E.*, XI, 2, col. 1362.

⁷⁰ *I.G.*, II², 1672, lines 65 and 167. Cf. also the third-century prices at Delos: once at 1 drachme 4½ obols (*I.G.*, XI, 2, 144, A, line 38), and once at 4½ obols (*ibid.*, 287, A, line 58).

⁷¹ *I.G.*, VII, 2712, line 65.

⁷² A *hemina* was equivalent to one kotyle, or about ½ pint, hardly enough to wet a man's mouth. In place of this word, might not *ἡμίχοον* (about 3 pints) be a better guess? Cf. above, p. 256, note 5.

⁷³ Herodotos, VII, 187. Cf. Thucydides, IV, 16 and VII, 87; also Pritchett, Part II, p. 198.

⁷⁴ A. Jardé, *Les céréales dans l'antiquité grecque*, Paris, 1925, p. 181. But cf. below, p. 275, note 101, for ἀρρυχοί of 1⅓ medimnos capacity.

⁷⁵ Strattis in Pollux, IV, 169.

⁷⁶ E. Saglio, *Dictionnaire*, *loc. cit.*

⁷⁷ Cf. English "coffin," and Bobart's remarks, *op. cit.*, p. 12.

⁷⁸ *C.V.A.*, Cambridge, 1, pp. 32, 35; *A.R.V.*, p. 371, no. 21.

⁷⁹ Cloché, *Classes*, pl. 38, 2; *A.R.V.*, p. 365, no. 45.

⁸⁰ Cloché, *Classes*, pl. 36, 1 (*A.R.V.*, p. 223, no. 9; "Manner of Onesimos").

⁸¹ E. M. W. Tillyard, *The Hope Vases*, Cambridge, 1923, pp. 56-57, on the Cambridge pelike.

⁸² Quite *dissimilar* the baskets shown in the vintaging scene on an amphora in Leningrad Pfuhl, III, fig. 287). Cf. above, p. 244, no. 3, and p. 245: σταφυλοβολεία?

of definition is perhaps to determine what was *not* called a kophinos. On this latter question our position is, as usual, far from secure.

5. SARGANE

(II, 135)

This listing of λίτρον σαργάνα[ι — —] (price not stated) places chief emphasis upon the λίτρον (= νίτρον, sodium carbonate, on which see Pritchett, Part II, pp. 311 f.). The sarganai are here significant mainly for their contents. On the other hand, the term must refer to a particular kind of container and not simply to a measure. The same passage has references to ἡμισάκια and φορμοί of produce (on the use of these terms for measures, see Pritchett, Part II, pp. 193-195; on φόρμοι, see further below, pp. 274-275); but there is no evidence that σαργάνη was ever used for a fixed unit of measure.

The word σαργάνη⁸³ is defined as a rope or cord of plaited material, and as a basket.⁸⁴ The latter is far more common. The use most often mentioned is to contain salt fish,⁸⁵ and that may have been its primary purpose. It also was used for raisins and figs,⁸⁶ for beans,⁸⁷ and perhaps for chaff.⁸⁸ The size could of course have varied widely. In the New Testament account of St. Paul's escape from Damascus by being let down from the wall in a *sargane*,⁸⁹ there may be some hint as to size. The passage has, in fact, been cited to explain the comic exclamation from Timokles, "Send for sarganai!" on the approach of well-known glutton.⁹⁰ Nevertheless, the word is plural in Timokles; and as for St. Paul's descent, a man standing erect and holding the taut rope could have managed with a basket of quite modest size. The shape, too, is

⁸³ Σαργάνη: Liddell-Scott-Jones, *s.v.* σαργάνη, ταργάνη.

⁸⁴ Hesychius, *s.v.* σαργάναι, ταργάνει; *Et. Mag.*, 753, *s.v.* τεταραγωμένη (the statement there, that ταργάνη is Attic, may refer merely to the common Attic habit of shifting *sigma* to *tau*, since this and the entry in Hesychius are the only places where ταργάνη is found). Cf. also Aeschylus, *Suppl.*, 788, where the MSS. variously read σαργάναις or ἀρτάναις ('ropes').

⁸⁵ Kratinos, Frag. 40, in Athenaeus, III, 119 b; Lucian, *Lexiphanes*, 6; Pollux, VII, 27, where σαργάναι, without ταρίχους, seems in one instance to mean baskets of salt fish. A Berlin papyrus (*Aegyptische Urkunden*, Berlin, 1895), no. 1095, line 21, has σαργανίδιον (or σαργανίτιον) in the same sense. Cf. P. M. Meyer *ad loc.* "Σαργανίτιον Korr. aus σαρκανίτην, 1. σαργανίδιον (σάργος Meerfisch, σαργάνη = σαργανίς Fischkorb)." But for the etymology, see Boisacq, *Dictionnaire*⁴, *s.v.*, where the source of the word is quite differently explained.

⁸⁶ Aeneas Tacticus, XXIX, 6.

⁸⁷ Timokles, Frag. 21, 7, in Athenaeus, IX, 407 d.

⁸⁸ *Leipzig Papyri*, (L. Mitteis, *Griechische Urkunden*, I, Leipzig, 1906, 21, line 18; where σαργάνιον "bedeutet entweder den Korb oder das Bündel" (Mitteis).

⁸⁹ II. *Corinthians*, XI, 33.

⁹⁰ Cf. above, note 87.

elusive. A comparison with γύργαθος,⁹¹ another ill-defined type of basket, is suggested by the line in the Edict of Diocletian which sets a maximum price, according to the weight, on σάρκινος ἥτοι γύργαθος,⁹² but nothing very concrete can be learned from this passage.

From all this material, which offers hardly any clues for archaeological comparisons, not enough information emerges to allow a very close definition or illustration of *sargane* which would set it apart from several other basket-words in our lists.

6. PHORMOS

(I, 125, 126-139; II, 91, 92, 93, 134, 140, 141; V, 17, 18)

The *φορμοί*⁹³ of the Stelai never stand as separate objects in their own right, but are named only as containers for various kinds of produce: wheat, barley, lentils, vetch, figs, almonds, coriander. They are, therefore, understood as official units of dry measure. On grounds of prices and other evidence, Pritchett has equated the capacity of a standard *φορμός* with a medimnos.⁹⁴ It is possible, in fact, that the sense intended in the Stelai is purely that of measure, without reference to a specific kind of vessel.

On the other hand, the word usually refers to actual basketry,⁹⁵ and it would be easy (as in the case of amphoras) to accept both senses at once: the physical object counted also as a unit of measure. The lexicographers regularly define *φορμός* as a basket,⁹⁶ used especially for produce and for work on the farm.⁹⁷ There is reference also to one material of which it was made (*φλέως*, 'reed')⁹⁸ and its size

⁹¹ Γύργαθος: Liddell-Scott-Jones, *s.v.*

⁹² Col. XXXII, 18, translated "wickerwork or basket"; σάρκινος taken, apparently, as roughly equivalent to *σαργάνη*. Cf. Liddell-Scott-Jones, *s.v.* σάρκινος, III. The mention of weight (*κατὰ τὸν σταθμόν*) may mean here, since the pound is named in the lines immediately preceding, that a price of ten denarii per pound is the maximum set for this kind of basketwork.

⁹³ Φορμός: Liddell-Scott-Jones, *s.v.*

⁹⁴ On the *phormos* as a measure, see Pritchett, Part II, pp. 194 f. and the references there cited. Cf. also Pollux, X, 169, who quotes from the *Demioprata* the (not extant) word *ἡμιφόρμιον*, apparently used as a measure.

⁹⁵ E.g., Hesiod, *Op.*, 482; Herodotos, VIII, 71; Aeneas Tacticus, XXXII, 2; Polybios, I, 19, 13; possibly also Aristophanes, *Thesm.* 813, although here the measure may be all that is meant. *I.G.*, I², 334, cited in the *Lexicon*, *s.v.*, 1, is a part of our Stele I (cf. Pritchett, Part I, p. 241). The word is also used for a mat, and for a coarse garment.

⁹⁶ Pollux, VII, 174. Cf. Hesychius and Suidas, *s.v.*; *Et. Mag.*, *s.vv.* *φορμηδόν*, *φορμίσκος*.

⁹⁷ Cf. Pollux, I, 245 and X, 130. Besides the produce listed in the Stelai, the named contents include dried figs (Suidas, *Et. Mag.*, *locc. citt.*), sand (Herodotos, Aeneas Tacticus, *locc. citt.*), chaff (Polybios, *loc. cit.*) and charcoal (Pollux, VII, 110).

⁹⁸ Herodotos, III, 98, 4. Suidas, *s.v.*, has *πλεκτὸν ἀγγεῖον ἐκ φλοιού*, i.e., 'bark,' but this may be a corruption of *φλέως*.

(‘fairly large?’),⁹⁹ but very little more can be gleaned from the sources. The fact that, as a measure, it was probably a “back-load,” or about 80 lbs. of weight, also implies a large-sized basket.¹⁰⁰ If the *φορμοί* of the Stelai are, besides being measures, actual containers, they might be broadly defined as ‘large farm baskets.’

The appearance of the *phormos* is of course hard to establish,¹⁰¹ but one type of basketry is represented in Attic vase-painting which might be considered as a candidate (Pl. 51, d).¹⁰² This is the large harvest basket, like those shown on the column-krater in New York by the Orchard Painter (Pl. 51, d, a), in a scene of fruit-picking;¹⁰³ or, similar to these, but with handles, the basket which a boy is filling with dirt, on a red-figured kylix in Brussels (Pl. 51, d, b). Both of these have a strong resemblance to the large baskets shown in vintaging scenes (Pl. 51, d, c-f), a fact which makes one wonder whether *φορμός* and *σταφυλοβολεῖον* (above, pp. 249-250) may not, on occasion, have been synonymous. It is regrettable that we must end with this new complication, but salutary, perhaps, as a last reminder that the problem of assigning their appropriate Greek names to pictured basket-types is far from simple.

IX. PRICES OF CONTAINERS

1. POTTERY

The largest pottery containers of the Stelai, the *phidaknai*, have prices ranging from 11 down to 4 drachmai, each. The size of these vases is not stated. A different lot of *phidaknai* (not priced separately) seems to have had an average capacity of 12 standard amphoras, or about 120 gallons, each. It is not yet clear what is the relationship of this size to that of the *phidaknai* for which prices are given. Next

⁹⁹ *Et. Mag.*, s.v. *φορμηδόν*. *Φορμός* ἐστὶ πλέγμα τινὸς μεγάλου εἶδους.

¹⁰⁰ Cf. Pritchett, *loc. cit.*

¹⁰¹ It is not at all clear, for instance, exactly how a *phormos* differed from a *kophinos*, or an *arrhichos* (above, pp. 271-272), unless it be simply a matter of size. Metrologically, if a *kophinos* equalled 3 Attic choes, and the *phormos* was equal to a *medimnos*, the latter would be about four times as large. But there is no hope of drawing such conclusions with any confidence, for the sizes of the actual baskets, when not used as measures, must have varied widely. Also, *arrhichoi*, elsewhere made synonymous with *kophinoi*, are cited in *I.G.*, XII, 7, 62 [not 162, as in the *Lexicon*, s.v.], lines 20-23 and 42, with a specified capacity of $1\frac{1}{3}$ *medimnoi*!

¹⁰² (a) Richter and Hall, *R.-F. Ath. Vases*, pl. 91, no. 87 (Orchard Painter; *A.R.V.*, p. 346, no. 1); (b) Brussels R 347; *C.V.A.*, 1, III Ic, pl. 4, 1; (c) Paris, Bibliothèque Nationale 320, *C.V.A.*, 2, pls. 49-50 (*A.B.V.*, p. 389, middle; unattributed); (d) *Ἐφ. Ἀρχ.*, 1924, p. 109, fig. 1; (e) Paris, Louvre AM 1008, *C.V.A.*, 4, III He, pl. 29, 3; (f) Ferrara, r.-f. Kylix, Aurigemma, *Il Regio Museo di Spina*², pl. 30 (*A.R.V.*, p. 219, middle, no. 1: “hard to decide” whether by Panaitios Painter or Onesimos).

¹⁰³ Miss Richter remarks on the heaviness of the loaded basket.

below the phidaknai come the kardopos at 2 drachmai, a mortar (presumably of clay, at 1 drachme 5 obols, and a tripter (provisionally assigned to this price) at 1 drachme $4\frac{1}{3}$ obols. These are the only pottery objects which can safely be priced at more than one drachme each. An undetermined number of kr(ateres?) has a *maximum* price of 4 drachmai; of st(amnoi?), 1 drachme 2 obols; of hydria(i), 14 drachmai. In these three cases, however, the text is too badly mutilated to offer much help toward finding a unit price.

Between one drachme and one obol each are the sipyai at 5 to $3\frac{1}{2}$ obols (the latter figure based on a fairly sure restoration), the Panathenaic amphoras (empty and presumably painted) at 3.7 to 2.4 obols, the Eretrian amphoras at not less than 3 obols, and the eschara at a maximum price of 2 obols. Below one obol each, and cheapest of all, are the empty amphoras at $\frac{1}{4}$ obol.

All of these vases were sold in used condition, at auction. We do not know whether delivery was included in the price, but most probably it was not.¹ Also the cost to the buyer was increased by the amount of the sales tax indicated to the left of the auction price.² For comparison with other prices, the question of decoration must be kept in mind. For the biggest vessels, the phidaknai, mortars, kardopoi and tripteres, one naturally assumes plain ware; the same, surely, for the Eretrian and the empty amphoras. The sipyai were no doubt plain, and so too were the pottery kadoi and the eschara. Of the kraters, stamnoi and hydriai, nothing can be determined. The only likely case of decorated ware is that of the Panathenaic amphoras, painted in the traditional black-figure technique.

These prices, in spite of all uncertainties, are important additions to those known or conjectured from other sources, mostly vase-graffiti. An earlier study of mine³ gives a table of prices for pottery, drawn from the sources then available. The new list which is given here (Table I) incorporates the information gained from the Stelai, with a few additions. Admittedly, this knowledge is not very extensive, much of it is imprecise as to the exact nature of the object, and some of it is conjectural, but a picture is gradually emerging, which will probably be improved in time. For convenience of comparison, all prices are converted into obols and decimal fractions of obols. In the prices quoted from the Stelai, those which are only partly determined (e.g., where only a maximum or a minimum limit is known) are placed within square brackets.

¹ Prices for manufactured objects are often stated as prices at the factory, with transportation extra, e.g., for Corinthian tiles delivered to Eleusis, *I.G.*, II², 1672, line 72; and cf. Pritchett, Part II, p. 283, and notes 6-8.

² Cf. Pritchett, Part I, pp. 226-230.

³ "An Amphora with a Price-Inscription in the Hearst Collection at San Simeon," *Univ. Calif. Publ. Class. Arch.*, I, 8, 1941, pp. 179-198; table of prices, p. 192. Concerning the two papers by J. H. Jongkees, "An Attic Hydria with a Graffito," *Mnemosyne*, III, 10, 1942, pp. 151-156, and "On Price Inscriptions on Greek Vases," *ibid.*, IV, 4, 1951, pp. 258-266 (reprinted in *Studia van Hoorn*, Leiden, 1951, pp. 66-74), see the Excursus below, pp. 287 ff.

TABLE I
RECORDED PRICES OF GREEK POTTERY

<i>Shape</i>	<i>Decoration</i>	<i>Source</i>	<i>Unit Price (obols)</i> (Max.)-(Min.)	
<i>A. Mid-Sixth Century</i>				
Amphora (disputed)	Small, b.-f.	Hearst SSW 9938		2.00
<i>B. End of Sixth Century</i>				
Leky(thos?)	? B.-f. ?	Graffiti	1.30-	1.00
Ly(dion?)	? Kind of cup?	Graffito (genuine?)		0.78
Chytri(dion?)	"Small cup"? (or "Misc."?)	Graffito		0.30
<i>C. About 470 B.C.</i>				
"Larger" Lydion	? Kind of cup	Graffito		0.50
Lepastis	? Small cup; shallow	Graffito		0.35
"Myrtote"	"Myrtled" (cup?)	Graffito		0.35
<i>D. Mid-Fifth Century</i>				
Hydria	R.-f.: large, fine	Graffiti	18.00-	12.00
<i>E. Late Fifth Century</i>				
Phidakne	"Small" pithos	Stele VII, 52-56	66.00-	24.00
(Kados	"For field" (large?)	Aristophanes (<i>Pax</i> , 1202)		18.00)
Kardopos	Kneading basin	Stele II, 9-10		12.00
Mortar (pottery?)	Basin only?	Stele III, 10 (restored)	[11.00]	
Tripter	Large basin	Stele II, 3 (?)		10.33
Sipyre	Flour-bin (lidded?)	Stele II, 6, 17	5.00-	[3.50]
Krater	R.-f. (H. 30-32 cm.)	Graffiti	4.50-	4.00
Amphora, Panathenaic	Empty, painted	Stele II, 41-50	3.70-	2.40
Amphora, Eretrian	Empty, plain?	Stele II, 19		[3.00]
Eschara	Brazier	Stele III, 9 (restored)	[2.00]	
(Lekythos	"Very fine"	Aristophanes (<i>Ran.</i> , 1236)		1.00)
"Bathy"	? "Deep" (cup?)	Graffiti		0.35
Pellinion	Cup: small	Graffiti	0.37-	0.25
Oxis	Saucedish: small	Graffiti	0.17-	0.15
Amphora, "empty"	Plain; in poor condition?	Stele II, 240		0.14
Oxybaphon	Saucedish: tiny	Graffiti	0.06-	0.05
<i>F. Fourth Century</i>				
Pithos	Smallest <i>ca.</i> 25 amphoras	Graffiti (Olynthos)	322.00-	187.00
Lekane	Wide bowl (pottery?)	<i>I.G.</i> , II ² , 1672 line 184 (Eleusis)		1.50
<i>G. Third and Second Centuries</i>				
Stamnos	Plain? 3rd c.	<i>I.G.</i> , XI, 2 161, A, line 8; 287, A, lines 43, 76 (Delos)	[3.50]-	3.00
Oinochoe	2nd c.	<i>Insc. Délos</i> , 461, B ^b , line 51	[3.00]	
Poterion	2nd c.	<i>Ibid.</i> , line 52	[9.00]	

These prices offer many promising bases for comparisons, although as yet it cannot be said that any very clear "system" of prices is discernible, from which one might attempt to estimate the sale price of an actual vase other than certain of those bearing the graffiti. It is tempting to speculate, especially for the last quarter of the fifth century B.C. when the evidence is most plentiful, as to the probable pattern of a scheme of prices for actually extant vases, but there are many pitfalls. For the present, it may be wiser only to point to some of the most interesting relationships.

Although prices earlier than the time of the Stelai have a bearing on the significance of the new material, there is little opportunity for direct comparison. In the sixth century B.C., if my interpretation of the evidence is correct, a small black-figured amphora could be purchased for 2 obols; lekythoi at around 1 obol each, or slightly higher; and various smaller vases from $\frac{3}{4}$ obol down to less than $\frac{1}{3}$ obol each. Around 470 B.C., small vases, the names of which suggest cups, and some of which may have been black-glazed, seem to be priced at $\frac{1}{2}$ down to about $\frac{1}{3}$ obol each. About mid-century, large red-figured hydriai (no doubt much bigger and finer than anything yet mentioned) sold at 2 and 3 drachmai each; that is, such vases cost at least as much as the clay mortars and kneading troughs of the Stelai. Little more can be said of pottery prices before the last quarter of the fifth century. Some few other prices, though less clearly applicable to specific vase-shapes, seem to bear out the general impression given by those mentioned above.⁴

Of the prices recorded in the Stelai, those for Panathenaic amphoras are of special interest. It is noteworthy, in particular, that the range of their prices never reaches that for red-figured bell-kraters of the same period, as recorded in graffiti. There are, however, several things which may help to explain this situation. The kraters on which the graffiti occur are, it is true, much smaller than a Panathenaic amphora, but they were provided with up-to-date red-figure decoration, whereas the paintings on the amphoras were in a traditional, and by that time not very attractive, technique.⁵ It is true, again, that the prices for the kraters are wholesale prices, and such vases, sold at retail in Athens, may have brought an even higher price. On the other hand, the Panathenaic amphoras, sold at second hand, at auction, and in group lots, can scarcely be thought to have brought a full return on the amount of labor and materials needed to produce such a vase (*new* Panathenaic amphoras, of course, would not have been for sale). The extent of the difference in prices realized for the Panathenaics indicates, too, that their condition may have left much to be desired. The case of the (plain) Eretrian amphoras, which brought as much as the average of the Panathenaics, suggests that hidden factors of condition should be kept in mind in appraising any of the prices in the Stelai.

⁴ Cf. Amyx, *op. cit.*, p. 198, note 125, with the warning there given.

⁵ Cf. above, p. 186.

Prices for *sipyai* (covered containers for meal) are also instructive in this respect. These vases, presumably plain, have a price-range which extends above that of the bell-kraters in the graffiti. We do not know the size of these vessels, but it seems unlikely that they were larger than a full-sized amphora. It is, perhaps, justifiable to think that routine decoration did not add very much to the value of a vase, that in fact the potting would account for most of its cost. This would help to explain why the prices for larger terracotta objects rise so rapidly, even for common-ware vases of no particular esthetic quality. The clay *kardopoi*, mortars and tripters have much higher prices than any of those just mentioned, approaching that for large red-figured *hydriai* of mid-fifth-century (see above). At the top of the scale, the *phidaknai*, though still far cheaper than the cheapest Olynthian *pithos*, are in a price-class of their own, which far surpasses any known prices for decorated vases. Utility, then, must have been the main factor in determining ancient prices for pottery, and we should be mistaken if we thought that the usual painted decoration of vases was prized very highly.

The *eschara* (brazier), if the maximum price of two obols is a unit price, seems also by these standards to have brought a very respectable return, but this cannot be taken as an established figure.

In this context, the availability of a *lekythos pany kalon* for one obol, on the testimony of Aristophanes (*Ran.*, 1236), need not be viewed with skepticism. On the other hand, a *kados*, even a big one for use in the fields (*id.*, *Pax*, 1202), would have had to be quite large indeed to be worth 3 drachmai, or half again as much as a (used) clay mortar. If the statement is to be taken seriously, a vase must be supposed which approaches the size of a small *phidakne* (see below).

The most startling price in the Stelai is that for empty amphoras, at $\frac{1}{4}$ obol each. This is very close to the unit price for oxides, the next-to-cheapest vases in the graffiti, with their price of $\frac{3}{20}$ to $\frac{1}{6}$ obol, each. That a plain, empty amphora could have been bought, even at auction, for the cost of one of these little vases, strongly suggests that something must have been wrong with these amphoras. Their condition is not stated to be defective, and we do not know their size, but there must have been something in the situation to justify their cheapness. Perhaps they were cracked and dirty; or small, cracked and dirty? We are still far from knowing what a new, full-sized plain amphora would have cost at retail in this period, but one would rather think of a figure in the neighborhood of the Eretrian amphoras, the empty (used) Panathenaic amphoras, and the *sipyai*, that is, around two to four obols each. An average figure of three obols does not seem altogether impossible, as a guess.⁶

For the *phidaknai*, there are no fifth-century figures for comparison, but the graffiti on *pithoi* of the first half of the fourth century, found at Olynthos, offer

⁶ At Delos, in 279 B.C., a *stamnos* (presumably plain) cost 3 obols; *I.G.*, XI, 2, 161, A, line 89. It may have been smaller than a full-sized Attic amphora, but prices in general had risen.

interesting information. These pithoi seem to have ranged upward in price from 31 drachmai 1 obol to 53 drachmai 4 obols; the cheapest had an estimated capacity of about 25 amphoras. Since the pithoi of the Stelai were not individually priced, they cannot be brought into this comparison. For phidaknai, on the other hand, we have clearly stated unit prices ranging between 4 drachmai and 11 drachmai. The size of these vases must have been far below 25 amphoras, but we have no way of directly estimating their size. It was suggested above (p. 171) that their condition might have some bearing on the range of their prices, and other complicating factors were noted. One has the impression (for what it is worth) that their capacity in amphoras may, within this part of the scale, have run approximately equal to their prices in drachmai, perhaps somewhat less for the higher-priced phidaknai, but these figures cannot be presented as specific estimates.

2. METAL VASES

For bronze vases, our only clear indication of a price is that for the chalkion thermanterion (above, pp. 218-219), at 25 drachmai 2 obols. The probable size of this object cannot be determined with any accuracy. The case of the kadoi is even more troublesome, for we do not even know for certain that any of those in the Stelai were made of bronze (cf. above, pp. 189-190). For those listed in Stele II, line 191 and Stele III, line 13, with maximum unit prices of 5 drachmai 1 obol and 8 drachmai 3 obols, the possibility that bronze is meant depends on our reading these (fragmentary) entries in the singular number. There is evidence that bronze *work* (apart from the material) was expensive in a third-century Delian inscription which records a payment of 16 drachmai for the manufacture of a bronze kados from scrap metal already in hand; another states that a kados was repaired at a cost of 2 drachmai, and a *kanoun* and a kados together for 1 drachme 2 obols.⁷ Numerous other inscriptions give accounts of minor repairs to bronze vessels, at prices which suggest that the bronze-smith was a highly paid craftsman. As for actual prices, a fragmentary Athenian inscription, also third-century, values a kados at between 16 and 19 drachmai, a psykter at between 7 and 11 drachmai, a dinos at between 8 and 13 drachmai, and oinochoai at 10 drachmai 3 obols and at 11 drachmai each.⁸ These were all, presumably, bronze vases. This information indicates that prices of 5 to 8 drachmai each for kadoi in the late fifth century would be low for bronze, but perhaps not impossibly low. The size of kadoi varied widely, and these may have been small vases, perhaps also in poor condition. But, if these entries are to be restored in the plural, we should be compelled to assume that pottery vases are meant.

⁷ *I.G.*, XI, 2, 287, A line 64; 203, A, line 44; 219, A, line 39.

⁸ *I.G.*, II², 1695, lines 4 ff.

The entry in Stele VII, lines 57-58, which concerns a leaden funnel, is incompletely preserved and difficult to interpret (see above, pp. 255, 258). It is hard to accept the stated price of 2 drachmai 2 obols as being applicable to the funnel alone, for lead was by far the cheapest of all metals, produced in abundance from the mines at Laurion in Attica. At Athens in 408/7 B.C. lead was purchased at 5 drachmai per (trade?) talent,⁹ and at Delos in the third century its price (imported) ranged between 5 and 7½ drachmai.¹⁰ In the fourth century, however, the price at Epidaurous was only 1 drachme 4 obols per talent,¹¹ and at Eleusis (329/8 B.C.) 2 drachmai 4 obols, including the rental of a funnel.¹² Aristotle¹³ gives an account of one Pythokles' advice to his fellow-Athenians to buy up lead at 2 drachmai per talent for a profiteering resale at 6 drachmai. From this evidence, Ardaillon¹⁴ has concluded that the price of 408/7 B.C. reflects the critical conditions at the mines in the years following 413, and that the normal price of lead at Athens, chief supplier to the Greek world, was around 2 drachmai per talent.

At this last figure (i. e., at a silver-to-lead value ratio of at least 3,000 to 1) enough lead to be worth 2 drachmai 2 obols would have weighed 7,000 drachmai, or more than 66 pounds! Even if we cut this figure in half to allow for costs of manufacture and for other contingencies, the idea of a leaden choanian weighing more than 30 pounds is difficult to entertain. Most probably, then, something else was named in this entry which would account for a part of the total price applying to it (see above, p. 258).

3. STONE

Prices for stone objects are preserved in several passages of the Stelai. A mortar is listed for 8 drachmai 5 obols. A lenos, or wine-treading basin, was sold for a conjectured price of 8 drachmai (above, pp. 242-243). One kardopos brought 6 drachmai 2 obols, another (quite possibly) 7 drachmai 5 obols. A broken pedestal of a kardopos was sold for 1 drachme 3 obols, a sound pedestal (of a broken kardopos) for 6 drachmai 3 obols. From these last-named prices, it is clear that kardopoi were made in two parts, like louteria, and it seems likely that the prices of kardopoi apply to basins without pedestals. Both parts together would then have cost 13 to 14 drachmai. The

⁹ *I.G.*, I², 374, lines 286-290.

¹⁰ J. A. O. Larsen, in T. Frank, *Economic Survey* IV, p. 398.

¹¹ *I.G.*, IV², 103, lines 109-110.

¹² *I.G.*, II², 1672, lines 176-177.

¹³ Aristotle, *Econ.*, p. 1353a, 15.

¹⁴ E. Ardaillon, *Les mines du Laurion dans l'antiquité*, Paris, 1897, pp. 117-118, where most of the foregoing references are cited and discussed. I owe my knowledge of this passage to Miss Margaret Crosby.

holmos and the lenos might also have been made in two parts, but the former is most often a one-piece object, and, for the latter, the upper slab would be the essential working part.¹⁵ It is not certain whether the entries listed here refer to the whole object, or only to the upper part, or how much difference this would make to the total price. On the analogy of the kardopoi, we might be justified in thinking that the lenos and mortar were sold without their bases, if separate bases existed for them.

The Stelai also give prices for similar objects made of pottery, which have been discussed above (pp. 276 ff.). Comparative prices for stone and clay objects are instructive. A pottery kardopos is priced at 2 drachmai, and a (pottery?) mortar at 1 drachme 5 obols. Were these the whole objects, or only the basins? If stands had to be bought separately, the price for the complete object might have been much higher, perhaps between 3 and 4 drachmai, approaching that of the cheapest phidaknai. For kardopoi, if a complete ensemble in stone cost up to 14 drachmai, in pottery only 2, the cost ratio between stone and pottery for similar objects (disregarding the unknown factors of size and condition) would be as much as 7 to 1; but if only the pottery basin is meant, the ratio would be reduced to 3 or 4 to 1. Similarly in the case of mortars, if the stone mortar costing 8 drachmai 5 obols was complete, including a stand (whether separate or in one piece with the basin), and the (clay?) mortar costing 1 drachme 5 obols was also complete, the price ratio would be about 4½ to 1. One is tempted to think, for the latter specimen, that the *bathron* listed immediately after it, and priced at 1 drachme 1 obol, may have been its base,¹⁶ in which case both parts together would have cost exactly 3 drachmai, or about one-third the price of the stone mortar (in whatever form it was actually sold). We should keep in mind also, in this comparison, that large stone mortars are heavy, but the workmanship is relatively rough, in no way to be compared with that of a louterion, or, perhaps, of a kardopos. The stone lenos (for which the price of 9 drachmai is only an estimate) may have been sold without a base. One might expect, for a heavy, flat object of this form, the provision of a base, as needed, would best be left to the individual owner.

We may note, for comparison with the mortar and the lenos, the prices given in the Stelai for upper millstones: once surely at 7 drachmai 1 obol, once (restored) at 9 drachmai 2 obols, in a third case either 6 drachmai 2 obols or 10 drachmai 3 obols, or something close to these figures.¹⁷ That is, only the upper part of this object brought prices comparable to those for the mortar and (estimated) for the lenos, and

¹⁵ See above, pp. 237 f., 245 f. For *ιφόλμιον*, cf. Aristophanes, Frag. 61.

¹⁶ Stele III, line 11. Perhaps rather an article of furniture (cf. Pritchett, Part II, p. 215), but the thought of associating it with the preceeding line is tempting. Such a base could well have been called a *bathron*; cf. *I.G.*, IV, 39, lines 11-12, *bathron hypokraterion* (there made of wood). The cost, 1 drachme 1 obol, would then have to be added to that for a *holmos* to get the full price. But *bathron* elsewhere in the Stelai seems not to have this meaning, and the juxtaposition here may be fortuitous.

¹⁷ Cf. Pritchett, Part II, p. 299.

somewhat higher than that for (the upper part of) one of the stone kardopoi. The upper millstones were, however, surely much smaller than any of these other objects. The disproportionately high prices which they brought must be owing to the fact that they were imported articles of trade, of relatively complicated construction, made of volcanic stone, and perhaps more or less monopolistic products.¹⁸

To summarize, we have for stone objects the following prices (partly determined figures in square brackets):

		<i>Drachmai Obols</i>	
Kardopos	Upper part only	6	2
"	" " "	[7	2]
"	Base only: sound	6	3
"	" " : broken	1	3
Mortar	Whole?	8	5
Lenos	Press-bed only? (estimated)	[8	0]
Upper Millstone		7	1
" "		[9	2]
	(Conjectured)	[6	2]
		or	
		[10	3]

From these prices, it appears that a piece of worked stone big enough to make the main part of a kneading basin, or a mortar (whole?) or a lenos cost between 6 and 9 drachmai, labor included, but the base (if any) had to be provided separately and at extra cost. The kind of stone is not stated, but it could well have been local marble, perhaps Pentelic, which was plentiful at this time and was freely used for the manufacture of such objects. Sizes, too, are undetermined, but even the rough idea of prices which is suggested by reference to extant objects of similar purpose has great value, since nothing at all has hitherto been available.

Truly comparable prices for stone are hard to find. Where payments are recorded in inscriptions, they usually refer to costs of labor and transportation rather than direct purchase, and size is also an important (and usually unknown) factor.¹⁹ One example will be given, for what is worth. At Delos, in 279 B.C., a stele which would accommodate 30,000 letters was bought for 25 drachmai; local transportation, instal-

¹⁸ Cf. *Olynthus*, VIII, pp. 329-330. In the many examples found at Delos, a more or less standard size is maintained. A good example is Delos No. B 4588, with dimensions approximately 0.45 x 0.35 x 0.14 m. Of like size, No. B 5627 (*Délos*, XVIII, pp. 126-128, pl. 50, no. 379).

¹⁹ At Eleusis (329/8 B.C.), rough-cut paving stones were bought at a total cost of 3 drachmai 1 obol to 3 drachmai 3 obols, each, including cutting, transportation, and laying; but we do not know the size of the stones, or who owned the quarry (*I.G.*, II², 1672, lines 18, 22, etc.).

lation, and inscribing were extra.²⁰ This may have been a stone much like that on which the transaction is recorded: white marble, with dimensions 1.61 x 0.77 x 0.103 m., a slab of desk-top size, containing roughly enough stone to make one of the objects in question. The stone was imported to Delos, and this had its effect on the price. A direct comparison with the fifth-century Athenian prices for objects of Pentelic marble of course offers many hazards, but if we assume even this amount of stone for our lenos, we might conclude that the Delian marble was three times as costly, in its time and place.²¹

4. WOOD

A wooden mortar (Stele II, lines 22-23; price fragmentary) was priced at not less than 3 drachmai 3 obols, with other possible readings up to 12 drachmai 3 obols, but hardly beyond. Since a stone mortar cost only 8 drachmai 5 obols, a price above that figure would seem unlikely for one made of wood. A suggested price, for purposes of discussion, might be put at 7 drachmai 3 obols. For comparison, we may note that a phatne (grain-bin) made of wood brought 10 drachmai 1 obol.²² It is not hard to believe that this structure was somewhat more elaborate and larger than the wooden mortar (hewn out of one big block?).

In Stele II, line 224, three pestles, for which the material is not stated but was possibly wood, are priced at 1 drachme 3 obols or at 3 obols each. This is one-fifteenth of the price conjectured for the wooden mortar. The pestle would have been made as a sort of double-headed paddle, perhaps a yard or so in length, out of one piece of wood (cf. above, pp. 238-239). Since the labor cannot have been a very important factor, we must conclude that good lumber was relatively expensive. The prices for furniture point in the same direction, for (small) tables sold for 4 drachmai each. Wooden lampstands, probably containing not much more lumber than a broomstick, cost one obol each; but the price of grape-stakes per hundred is less than 3½ obols.²³

Outside of the Stelai, comparative prices for wooden objects, apart from furniture (on which see Pritchett, Part II, pp. 211 f.), are not easy to find. For association with the skaphai (perhaps of wood) which Pollux attributes to the Stelai,²⁴

²⁰ *I.G.*, XI, 2, 161, A, line 118. Others cost 30 and 35 drachmai each (e.g., *Insc. Délos*, 316, line 122).

²¹ That is, if we assume that the price of the lenos was 8 drachmai. The press-beds at Delos are even bigger blocks, considerably bulkier than this Stele, so that their marble might have cost, there, as much as 40 or 50 drachmai. If the stone lenos of our inscription had such bulk, this discrepancy might become so great as to demand a higher price than the 8 drachmai proposed for it (cf. above, pp. 242-243).

²² Stele II, lines 39-40. Cf. Pritchett, Part II, pp. 243 f.

²³ Cf. Pritchett, Part II, pp. 305 f.; and above, p. 243.

²⁴ See above, p. 231.

we have Athenian prices of the third century B.C.: large (wooden?) skaphai at 4 drachmai each, smaller ones at 1 drachme each.²⁵ In the Edict of Diocletian, maximum prices for skaphai are fixed, as follows: 150 denarii for a large one of 5-modius capacity, 50 denarii for one holding 1 modius, 75 denarii for the same, iron-bound, and 30 denarii for a half-modius bowl, turned. For all but the first, wood is specified as the material.²⁶ In the Delian temple accounts, a *skaphes* (*sic*) is priced at 4 obols, and, elsewhere, a *skaphis* (*sic*) for the palaistra was purchased for 3 obols.²⁷ It is not clear just what these last-named objects were, but they may have been bowls or basins, though not necessarily of wood.

Prices for dressed wood, ready to be used as lumber, must have been consistently high in ancient Greece. At Eleusis in the fourth century B.C. wooden beams (ξύλα τετράγωνα)²⁸ of cedar cost approximately 365 drachmai per 1000 board feet; of elm, about 135 drachmai per 1000 board feet for the smaller pieces, close to 400 for the largest ones.²⁹ In Delos in the third century B.C. a price of 50 drachmai was paid for a single oak beam 16 cubits long, one 'foot' wide and 3 'palms' thick, or at a rate of about 250 drachmai per 1000 board feet.³⁰ These figures make it reasonably certain that manufactured wooden objects would have cost several times as much as pottery objects of comparable size. In other words, to return to the Stelai, a wooden mortar costing 7 drachmai 3 obols (or possibly even more) does not seem out of scale beside a pottery mortar costing around 2 drachmai.

5. BASKETRY

The Stelai have one very significant contribution to make to our knowledge of ancient prices for basketry, namely the price of 3 drachmai 3 obols for a *kiste oisyine*.³¹ The only other price which has survived at all legibly is that for two *kanaustro*; the price is at least 3 obols, but probably more.³² A total price of 6 drachmai 3 obols, which is epigraphically possible, would give a unit price closest to that of the *kiste*, but other restorations are equally possible, and we have no fair basis for comparison. These prices may be compared with that of a ceremonial *kanoun* at Eleusis (329/8 B.C., material not stated), which cost 4 drachmai.³³

²⁵ *I.G.*, II², 1695, lines 16-19.

²⁶ Col. XV, 48 ff.

²⁷ *I.G.*, XI, 2, 146, line 80; *Inscr. Délos*, 290, line 76.

²⁸ Cf. Pritchett, Part II, p. 297. Add to his discussion the references given here.

²⁹ *I.G.*, II², 1672, lines 146-156, with the price per beam of stated dimensions (in 'feet,' 'palms' and 'fingers').

³⁰ *Inscr. Délos*, 290, lines 222 ff. At this rate, a plank 4 feet by 1 foot by 1 inch (for example) would have cost 1 drachme.

³¹ Cf. above, p. 269.

³² Cf. above, p. 266.

³³ *I.G.*, II², 1672, line 116.

For the *kophinos*, which is not separately priced in the Stelai, we may note that at Eleusis (fourth century B.C.) kophinoi were bought in lots for a usual price of 1 drachme each, once for 5 obols; at Delos (third century B.C.) the price was 4 to 4½ obols.³⁴ The *koskinon*, or sieve, was also a form of basketry. It has no individual price in the Stelai, but once at Delos (third century B.C.) one was purchased for 1 drachme 2 obols.³⁵ In the Edict of Diocletian, maximum prices for koskina are set at 200 denarii for one of unspecified material, 250 denarii for one made of coarse leather, and 400 denarii for one of fine leather.³⁶ For our *sarganai*, mentioned primarily for their contents, and therefore not separately priced, we have a possible parallel in the *σάρκινος ἥτοι γύργαθος* of the Edict of Diocletian,³⁷ there apparently a coarse matting which was priced by weight, perhaps (maximum) at 10 denarii per pound.³⁸ For the *psiathoi* (rush mats) which appear in the Stelai (prices lost),³⁹ comparanda are available from Delos (third century B.C.) where psiathoi for use in the religious rites were bought, once for 1 drachme 4 obols each,⁴⁰ on another occasion at 1 drachme 3 obols.⁴¹

The variables of date and place, as well as our lack of precise descriptive knowledge concerning those objects for which we have prices—whether known, estimated, or conjectured—prevent any direct association of prices with clearly definable products of basketry. On the other hand, the sum of what we do know is at least suggestive of a price range for basketry in general, which can be applied with some plausibility to the existing archaeological data (mostly found in painted or sculptured illustrations of ancient basketry). There can be no doubt that the prices for basketry containers were much higher than those for clay vessels of comparable size. The kiste oisyne, for instance, though probably not a very large basket, sold for about five times as much as a contemporary red-figured krater perhaps roughly its equal in capacity, six times as much as the costliest of the auctioned Panathenaic amphoras, nearly as much as the cheapest phidakne. This fact is in striking contrast to the modern situation in America, where baskets of many kinds (chiefly imported) seem remarkably cheap. The reasons for this contrast are no doubt exceedingly complex; but, on the Greek side, we have more than a hint, either that the baskets which brought these high prices were very finely made, or that the materials for good basketry were scarce, laborious to prepare for use, and relatively costly.

³⁴ Eleusis, *I.G.*, II², 1672, lines 65 and 167; Delos, *I.G.*, XI, 2, 287, A, lines 58 and 84 (cf. *Insc. Délos*, 461, A, b, line 20; an unknown number, plural, for 5 drachmai).

³⁵ *I.G.*, XI, 2, 159, A, line 40.

³⁶ *Col.* XV, 56-61.

³⁷ *Col.* XXXII, 18.

³⁸ Cf. above, p. 274 and note 92.

³⁹ Cf. Pritchett, Part II, p. 254. Add to his account the references given here.

⁴⁰ *I.G.*, XI, 2, 287, A, line 57; cf. *ibid.*, 199, A, line 22, where the largest possible unit price is just under 2 drachmai.

⁴¹ *Insc. Délos*, 290, line 50.

EXCURSUS

THE INTERPRETATION OF PRICE-INSCRIPTIONS ON GREEK VASES

In the foregoing discussion of prices (Section IX), it seemed best not to burden the text and the footnotes with arguments leading only to negative conclusions and therefore not likely to advance the state of knowledge concerning ancient prices for Greek pottery. In the present Excursus, an attempt will be made to justify the position there taken on the readings of price-inscriptions.

Up to now, our most important sources have been the graffiti. Work on this material since Hackl¹ includes two original reports of new readings by Beazley,² some valuable notes by Marjorie Milne,³ my study,⁴ and, more recently, two papers by J. H. Jongkees.⁵ Even though many of the graffiti remain cryptic or hard to interpret explicitly, the information which can be found in them has proved to be quite valuable, if it is used with discrimination.⁶

¹ "Merkantile Inschriften auf attischen Vasen," *Münchener archäologische Studien dem Andenken Adolf Furtwänglers gewidmet*, Munich, 1909, pp. 1-106, pls. I-III.

² Beazley, "Some Inscriptions on Vases," *A.J.A.*, XXXI, 1927, pp. 349-350, no. 10, pp. 351-352, no. 14; "Some Inscriptions on Vases, IV," *A.J.A.*, XLV, 1941, pp. 597-598, especially nos. 9, 12.

³ Richter and Hall, *R.-F. Ath. Vases*, pp. 221-224 (facsimiles, p. 223).

⁴ "An Amphora with a Price-Inscription in the Hearst Collection at San Simeon," *Univ. of Calif. Publ. Class. Arch.*, I, 8, 1941, pp. 179-198, pls. 25-27.

⁵ "An Attic Hydria with a Graffito," *Mnemosyne*, Series III, vol. 10, 1942, pp. 151-156, pl. I, and "On Price-Inscriptions on Greek Vases," *Ibid.*, Series IV, vol. 4, 1951, pp. 258-266, pl. XVIII; reprinted in *Studia Archaeologica Gerardo van Hoorn oblata*, Leiden, 1951, pp. 66-74, pl. XVI. Page references, as here cited, refer to *Mnemosyne*. There is also a new paper by M. Lang, "Numerical Notation on Greek Vases," *Hesperia*, XXV, 1956, pp. 1-24, pls. 1-6, which deals with the vase-graffiti found in the Athenian Agora. Although of great interest in other respects, this study does not bear very closely on our present subject. Of the Agora graffiti which can be read as prices, most have to do with the contents, or with something else, other than the vases. There is no clear case of notation which gives the price of the vase. Tentative readings of this sort are offered for three graffiti (p. 15, no. 64; p. 16, nos. 68 and 69). Miss Lang refers in passing (pp. 15-16) to Jongkees' work and mine, but makes no comment on the discrepancies between them. On the prices of oxybapha, quoted (p. 16) from Hackl, see below, p. 291.

⁶ Some highly respectable authorities have privately expressed doubt as to whether any of the graffiti on vases can be correctly interpreted as prices for vases, but there is, so far as I know, no published exposition for this disbelief. To those who have discussed the matter with me, I am sincerely thankful. I believe that, although their arguments tend to be based on somewhat abstract grounds of general probability, much of their criticism is valid and necessarily to be taken into account in any responsible consideration of the *particular* sense of each graffito: not merely whether it records prices, and if so what these prices are, but also what stage of distribution they represent; who paid or was to pay them, where, and to whom; and, of course, for specifically what kind of vases. The evidence often does not yield answers to these latter questions, and I have tried to emphasize the need for caution in approaching all of them. But, until I can see an acceptable positive

Tables of prices are listed in my paper ⁷ and in Jongkees' second work,⁸ the latter with some notable differences from mine. If there had been substantial agreement between these lists, it would have been possible simply to incorporate their joint results with the new information found in the Stelai and to proceed directly to a new synthesis of the material. But this possibility was precluded by wide discrepancies of interpretation—and, I must say, of method—between his work and mine, so that the validity of my results can be defended only by critical analysis of his. The principal business of this Excursus is to provide such an analysis.

Jongkees (1951, pp. 261 f.) criticizes my conclusions on four main counts. (1) He complains that "my" prices are "often impossibly low." Although he discusses only the case of the tiny oxybapha, his list of prices disagrees with mine in several important figures, and he proposes many readings which I find unacceptable. (2) He is further disturbed by his belief that my interpretations of the prices do not adequately reflect the general rise in wages and prices from the sixth to the end of the fifth century B.C.; yet he commits himself to the much more difficult position (pp. 261, 265 f.) that prices of vases *dropped* sharply after about 470 B.C. (3) He says, "The crux of the matter is, however, that Amyx takes the prices to be in obols, whereas I prefer to read drachms." How one reads the figures is indeed the crucial question, as will be seen, but it is hardly as simple as he wishes to make it. (4) He disputes (as others have done) the proposed interpretation of the Hearst "two-obols" inscription as a statement of the amphora's price, concluding (p. 265) that "with this (argument) disappears the last support for Amyx' view that prices were low throughout the sixth and fifth centuries." To these strictures, he adds (p. 261) that eight inscriptions used by him were overlooked by me.

The main question is, of course, how one reads the numerals in the graffiti. It is, however, incorrect to say that I supposed that "all prices were in obols," and wrong to believe that a choice is necessarily open. At the point in my text (p. 190) where the statement is made that "obols are really intended," the reference applied exclusively to a group of inscriptions using only Ionic (alphabetic) numerals, wherein such a choice must be made. In the case of Attic (acrophonic) numerals, my procedure was different. Where I found 'drachmai,' I read 'drachmai'; where I found

alternative interpretation, I must cling to my belief that a graffito which reads, "Six kraters: price. four drachmai," can only mean that someone, at some time, in some kind of transaction, paid or was expected to pay someone else four drachmai for six krater-shaped vases; and that this case leads inevitably to a whole network of price-graffiti which must somehow be interpreted in similar terms. It would be an important service if one of the non-believers would marshal and publish all of the worthwhile negative arguments, so that they might be publicly analyzed and weighed, point by point.

⁷ *Op. cit.*, p. 192.

⁸ *Op. cit.*, 1951, pp. 259-260. Since some of the matter in Jongkees' first paper is repeated in the second, references here given will apply mainly to the later work. Herein, the first will be "Jongkees, 1942," the second "Jongkees, 1951."

'obols,' I read 'obols'; in cases of doubt, I attempted to determine, in the given situation, what was the better reading; and I tried in all cases to distinguish clearly between numerical tallies and statements of price. I tried, finally, to confine my statements of interpretation to inscriptions which are reasonably intelligible, and which refer to some plausibly identifiable kind of vase, the size and shape of which might be visualized without too much straining. In cases of greater doubt, I relegated the material to the footnotes; in cases of extreme doubt or complete bafflement, I left it out altogether. Whether this approach led me into serious error or caused me to omit vital pieces of evidence can best be judged by comparing systematically Jongkees' table with mine.

Let us begin with the clearest examples, those which appear in the graffiti on five late-fifth-century Attic red-figured bell-kraters, four of which are published and illustrated by Hackl (Nos. 595-598, his pl. III), the fifth transcribed by Beazley.⁹ The first four are illustrated here, Plate 52, a-d, from Hackl's facsimile drawings. The fifth, Plate 52, e, is copied from a new latex impression.¹⁰ These are the most readily legible price-graffiti that we have, for they give, in regular order: (a) the name of the vase, fully written out; (b) the number of pieces, in acrophonic numerals; (c) the price for the lot, again in acrophonic numerals, and plainly differentiating drachmai (𐀀𐀁) from obols (𐀀). In two of these (Hackl Nos. 595-596; here Plate 52, a-b),¹¹ the word *τιμή* appears before the price, clearly explaining the intent of the others, which in most instances have interpuncts separating number and price. These graffiti have the further merit that they are closely contemporaneous and tend to repeat the same vase-names from one to the next, so that we may test each against the others for consistency: if errors exist, whether in the original or in the modern transcriptions, they should be identifiable as inconsistencies. The graffiti mention kraters, bathea,¹² pellenia, oxides, and oxybapha. In my earlier paper, the sense of

⁹ *A.J.A.*, XXXI, 1927, pp. 351 f., no. 14.

¹⁰ Philadelphia M 5682. The latex impression was very kindly furnished by Dr. Jack L. Benson. For permission to publish a copy of it, I am indebted to Professor R. S. Young.

¹¹ Hackl, *op. cit.* The numbers, as cited here and elsewhere in this Excursus, are his catalogue numbers of graffiti.

¹² Jongkees reads *baphea* (1942, p. 154, note 18: "not *bathea*, as Hackl thinks"), with E. Pottier, *Vases antiques du Louvre*, III, p. 280, on Hackl No. 596, but this is a poor choice, on both epigraphical and philological grounds. In Hackl No. 595 (here Pl. 52, b), the middle letter has an imperfectly made circle in the center, resembling the marks of punctuation in the same graffito and therefore equivalent to a dot. The letter must be a *theta*. (For *thetas* with circular centers in formal inscriptions, cf. Meritt, *Hesperia*, V, 1936, p. 355 no. 1 and p. 359 no. 2, and comment on p. 358; A. E. Raubitschek, *Dedications from the Athenian Akropolis*, pp. 116 f., no. 12, and pp. 398 f., no. 369. There the practice was short-lived, but in graffiti one need not be surprised to find it reappearing at a later date). In Hackl no. 596 (here Pl. 53, a), the center looks rather like a short vertical stroke, but there is no reason to doubt that a *theta* was meant. The informality of graffiti is well known; a parallel to the present situation exists in the refreshing variety of *thetas* to be found in the ostraka of Themistokles (see especially Broneer, *Hesperia*, VII, 1938, pp. 228 ff.,

these graffiti was extracted, and the results tabulated (p. 189; cf. pp. 196-197, notes 106-110) and summarized (p. 191). Unit prices for kraters, in four cases, come to 4 obols, in the fifth case to $4\frac{1}{2}$ obols; for bathea, in two cases, $\frac{7}{20}$ obol; for pellenia, in two cases, $\frac{1}{4}$ obol and $\frac{3}{8}$ obol; for oxides, in three cases, $\frac{3}{20}$ obol (twice) and $\frac{1}{2}$ obol, and the name appears without a price in two others; and, for oxybapha, in two cases, $\frac{1}{20}$ obol and $\frac{3}{50}$ obol.

These are some of the prices in my list which Jongkees finds "impossibly low." In his own list, Jongkees agrees in pricing kraters at 4 obols each (but with no mention of the price of $4\frac{1}{2}$ obols on the Philadelphia krater), and bathea at $\frac{7}{20}$ obol (rounded off to $\frac{1}{8}$ obol); but then he continues, with single prices only, putting pellenia at $1\frac{1}{2}$ obols each, oxides at 1 obol each, and oxybapha at $\frac{1}{8}$ each. Compare Hackl, p. 98: "Die Kratere sind offenbar die grössten und wertvollsten Stücke unserer Preisliste; denn 1 Stück kostet 4 Obolen. Dann kommen die Pellenia à $1\frac{1}{2}$ Obolen, ferner die Oxides à 1 Obol, dann die Bathea und Oxybapha à zirka $\frac{1}{8}$ Obol." This sounds plausible enough, and seems safe enough, if one does not wish to study the whole paragraph, or to look at the inscriptions. But wait; there is another sentence: "Am billigsten sind die Oxides der letzten zwei Inschriften." Earlier in the same paragraph, this statement is clarified by another: "Bei 597 kosten 40 Oxides nur 1 Drachme und bei 598 20 Stück 3 Obolen." There is no indication of this price in Jongkees' entry for oxides. If we delve a little deeper into Hackl's text, we see further that Hackl allowed himself to become confused; for he arrives in the first place at his price of approximately 1 obol each for oxides by reading back into the lines for bathea in Nos. 595 and 596 (thus getting 8 for 1 drachme 1 obol, and 10 for 1 drachme 1 obol),—surely without warrant; the oxides of these graffiti are unpriced,—and then justifies this price by quoting indirectly (for no other graffito in this lot gives the figure 20 with oxides) from No. 598 a price of 20 oxides for 3 *drachmai* (rightly contradicted in the next sentence, and in his last sentence, both

on the ostraka from the North Slope of the Acropolis). Cross-barred, dotted, and phi-like *thetas* all occur, sometimes combined in the same inscription. Cf. especially Broneer's Group "E," *op. cit.*, pp. 235-236, fig. 65, and Group "M," pp. 240-241, fig. 70 (nos. A. O. 111, 85, 108, 59, 36). The converse also occurs in the cross-barred *phi* of the ostrakon *ibid.*, p. 239, fig. 68, no. A. O. 31.

The presence of oxybapha in Hackl Nos. 597 and 598 probably influenced Jongkees in favor of *baphea*, but this form is hard to justify. *Batheia*, on the other hand, makes good sense as a neuter adjective, with which we may supply some such word as *poteria* (cf. the *mikra leia* and *rhabdota* of Hackl, p. 56, no. 607; and see above, p. 208, on *poterion*). For *baphea*, there is no exact parallel. We have *βαφείον* (cf. Liddell-Scott-Jones, *s.v.*), which could yield an Attic plural *βάφεια* (cf. K. Meisterhans, *Grammatik*³, pp. 40-42), but the meaning is unsuitable. Hesychius gives *βάφιον* as a Tarentine word equivalent to *ὀξύβαφον*, but *βάφεια* could not come from this. Jongkees (1951, table, p. 259) gives *βάφος* as the singular form, but the existence of this word is unattested, and the Attic plural of it should be *βάφη* (if written by a metic, it might come out *βάφεια*). Therefore, although such a word is, morphologically, possible, this fact alone is not sufficient reason for expecting to find it here. (I owe some of the foregoing observations to Miss Milne).

quoted above). In the graffiti themselves (Pl. 52, a-e), one can see that this is not a question of whether one prefers to read drachmai or obols, but, instead, whether one wishes to assume an error either in the original or in the transcription; and for that assumption we must find inconsistency. In Hackl, No. 597 (Pl. 52, c), there is no choice; oxides are clearly priced at 40 for one drachme. This is exactly proportionate to the figure 20 for 3 obols (not drachmai) in Hackl, No. 598 (Pl. 52, d) and almost exactly so to the figure 6 for 1 obol (not drachme) in the Philadelphia graffito (Pl. 52, e), Beazley's reading of which was once accepted by Jongkees,¹⁸ but which seems to have found no place in his later study (cf. on kraters, above; and on pellenia, below). In these latter cases, a reading of drachmai would be inconsistent with the evidence of Hackl No. 597, and must be wrong.

In the matter of pellenia, Hackl did not have access to the text of the Philadelphia graffito, and may therefore be forgiven for having misread the price on No. 598 as 12 for 3 drachmai, since the word occurs only here in the four graffiti studied by him. But, in the Philadelphia graffito, pellenia are clearly priced at 16 for 1 drachme (there is no choice), or at $\frac{3}{8}$ obol each. To accept a price of $1\frac{1}{2}$ obols each, for the pellenia of Hackl No. 598, we must not only accept a discrepancy of 4 to 1 in this price, against a (reversed) ratio of only 2 to 3 if it is read to yield a unit price of $\frac{1}{4}$ obol; we must also suppose an error in the text. Here, again, the greater difficulty arises if we attempt to "correct" the text. Pellenia, then, at $\frac{3}{8}$ obol each, and $\frac{1}{4}$ obol each.

Finally, the oxybapha. I had hesitated over the prices in Hackl No. 597 (50 for 3 obols) and Hackl 598 (20 for 1 obol), partly because there is one error in No. 597, in that the price for 6 kraters is given as 4 *obols*. But there is no reason to suppose any error in No. 598, and the stated prices for oxybapha— $\frac{1}{20}$ and $\frac{3}{50}$ obols each—may be taken as correct. It is worth noting that the tendency in these graffiti (except in the Philadelphia example) is to list the vases in descending order of unit value, and that in both Nos. 597 and 598 the oxybapha come last; further, that the rate for bathea in Hackl Nos. 595 and 596, 20 for 7 obols, fits an evenly graduated scale which steps downward progressively on Hackl No. 598: 20 pellenia for 5 obols (calculated); 20 oxides for 3 obols; 20 oxybapha for 1 obol.

It is unfortunate that Jongkees, preferring to read drachmai for obols in these inscriptions, chose also to perpetuate, in such truncated form, the one part of Hackl's interpretation which had gone awry; chose too, in the bargain, to ignore the actual texts of the graffiti, including that of the Philadelphia graffito, which bears significantly on the other readings. If it be argued that there is error in the graffiti themselves, or in Hackl's transcriptions (though Jongkees does not say that there is), one can only reply that, taken altogether, the results of reading obols as obols are so consistent, with the sole exception of the entry for kraters on Hackl No. 597, as to

¹⁸ Jongkees, 1942, p. 154, note 19. Cf. Beazley, *A.J.A.*, XXXI, 1927, pp. 351 f., no. 14.

allay all fears on this score. In fact, as has been shown above, gross inconsistencies arise when we assume such error. Furthermore, there are independent transcriptions of Hackl Nos. 596 and 597 which confirm essentially the readings given by Hackl.¹⁴ All of these graffiti should be critically re-examined; but, from the published evidence, the readings given in the table on p. 189 of my earlier paper, and repeated above, should stand. Since these are stated prices, it is pointless to argue that they are "too low," or to seek non-existent choices between obols and drachmai.

Another graffito with acrophonic notation appears on a pelike in Syracuse¹⁵ of about 470 B.C.; but, as will be shown, its possible sense as a price-inscription is so dubious that it must be withdrawn from this context. I had once followed Hackl¹⁶ in taking this inscription to mean that *lekythides* were priced at 20 for 10 obols, or at $\frac{1}{2}$ obol each (see Pl. 52, f; not a facsimile). Jongkees (1951, p. 260) also cites lekythides at $\frac{1}{2}$ obol, but adds, in parentheses, "or 2" (sc. obols), an alternative reading which is explained in his earlier paper (1942, p. 154, note 20) by the proposal that, in the graffito, the M at extreme left, which Hackl took to be a sign separate from the price, should be read Π, yielding a price of 6 drachmai 4 obols for 20 pieces, or 2 obols each. The graffito should be re-examined,¹⁷ and the rewriting of M into Π does violence to the published evidence, but the reading has now become not very relevant to the question of price. Meanwhile, a new graffito has come to light which makes even Hackl's (and my) interpretation untenable. On another vase by the same painter, a hydria recently on the market in Basle,¹⁸ there is a graffito (Pl. 52, g) which is,

¹⁴ *C.V.A.*, Louvre, 4, III Ie, text, p. 3 and Pottier, *Vases antiques du Louvre*, III, p. 280 (Hackl, No. 596); *C.V.A.*, Louvre 4, III Id, text, p. 24; Pottier, *op. cit.*, III, p. 279 (Hackl, No. 597). In the latter graffito, Pottier reads, after "oxybapha 50," "4 obols—ou 5(?)." The *C.V.A.* transcription also differs from Hackl's, e. g., in that the *sigma* of *oxides* is shown with four strokes.

¹⁵ Inv. 21834, by the Syracuse Painter: *A.R.V.*, p. 353, no. 16.

¹⁶ Hackl, *op. cit.*, p. 105; cf. Amyx, *op. cit.*, pp. 190, 192.

¹⁷ Republished (but again not in facsimile) by P. Arias in *C.V.A.*, Siracusa, 1, III I, text, p. 4, again reading M.

¹⁸ *Auction Sale XVI, June 30, 1956: Classical Antiquities*, Monnaies et Médailles, S.A., Basle, 1956, no. 129, p. 36 (not illustrated); with transcription of graffito, not in facsimile. Dated "about 460 B.C." The attribution to the Syracuse Painter is Beazley's (cf. *ibid.*, p. 4).—The statement made in the text, that the sense of *lekythis* is "general" and applicable to "big pots," rests on a common misapprehension. The vase-names appearing in graffiti often do *not* apply to the vases on which they are written. Also fallacious, the inference, from *lekythizein*, that a *lekythos* (or *lekythis*) could be a big vase. The fault stems from the Liddell-Scott-Jones definition, *Lexicon*, s.v., "declaim in a hollow voice, as though speaking into a *lekythos*." Without going any more deeply into the matter, it must be said here that the meaning of *lekythizein*, even in antiquity, was ambiguous, referring now to the manner, now to the matter, of overblown speech; in the latter case, which may well be the original meaning, it has of course to do with the polychromy of white lekythoi, i.e., to "purple passages." In the former case, even if we grant for it a good classical origin, the comparison is made not to speaking, but to *blowing* into a lekythos (*ἐπεὶ καὶ αὐτὴ πεφύσηται*, *Schol. in Aristophanem*, *Ran.*, 589), which made the "hollow" noise; try it on a Coca-Cola bottle. This effect could hardly be obtained from a pelike or a hydria.

except for the final numeral, essentially a replica of that on the Syracuse pelike. But, in this new inscription, the final numeral, if correctly transcribed, is 111 (one hundred and eleven), a figure which would make nonsense of the proposed prices for these lekythides: once 20 for 10 obols, but here 111 for the same amount. I can think of no solution to this puzzle. Perhaps the second sign is not a drachma sign at all, but a hastily written *ypsilon*.¹⁹ At least it is plain that neither of these graffiti can now be read so as to give an intelligible unit price for lekythides, and they must be held back for further study before any complete sense can be suggested.

Even without the completely damning evidence of the Basle hydria's graffito, Jongkees' price of 2 obols each for *lekythides* will not stand the test of consistency. On this question, we may compare the price with two others not very far off in date. Two graffiti (on which Jongkees' and my interpretations, following Beazley's, agree) appear to price large red-figured hydriai at 2 drachmai and 3 drachmai each.²⁰ If these graffiti refer, as seems likely, to the vases on which they are inscribed, it would be incongruous to have lekythides (*small* lekythoi, as Hackl, p. 105, rightly insists) so valuable that a mere half-dozen of them would be worth as much as the London "two-drachmai" hydria (H. 0.41 m.), or nine of them equal to the Leningrad "three-drachmai" hydria (H. 0.47 m.).²¹ This question, again, does not involve a choice between drachmai and obols in one's reading of the graffito, but an emendation of the text, even though the text itself has meanwhile proved to be unintelligible.

Apart from the price read on the Hearst "two-obols" amphora, which will be treated below, the rest of the epigraphical entries in my list were derived from graffiti which use Ionic notation (cf. my pp. 190-191). These prices refer, partly in abbreviated form, to leky(thoi?), Ly(dia?), chytri(dia?), "larger Lydria," lepastides, myrtotai (Pl. 53, a-g). In this class of inscriptions, numbers are given in Ionic (alphabetic) signs, followed by similar numbers for the price, but with nothing to show whether drachmai or obols are meant. These are the inscriptions about which I asked (*op. cit.*, p. 190), "Are the prices given in drachmai or obols?" These are the only graffiti in which there is really any choice between drachmai and obols. Following is a comparative table of Jongkees' and my interpretations of these graffiti, he reading drachmai, I obols, for the prices:

¹⁹ Cf., e.g., Hackl, *op. cit.*, pls. 2-3, nos. 550, 551, 600.

²⁰ Jongkees, 1951, pp. 259, 262; Amyx, *op. cit.*, pp. 189, 192, and p. 197 note 114. The two hydriai are listed on *A.R.V.*, p. 701, nos. 95, 96 (Group of Polygnotos).

²¹ The Syracuse pelike might be as late as 470 B.C., but the hydriai were made a good twenty years later (see below, p. 305). I do not understand Jongkees' statement (1951, p. 262) that the hydriai meant in these graffiti (*hydriai poikilai*) were "perhaps polychrome vases." The hydriai which bear the graffiti are decorated in ordinary red-figure technique, and ordinary painted vases, both black-figure and red-figure, are elsewhere called *poikilai*; cf. my p. 197, note 114; Jongkees, 1951, p. 262, note 2; and cf. Hackl No. 606, and *Bulletino Napolitano*, II, 1844, p. 23, pl. I, 6. What sort of fifth-century hydriai, other than ordinary red-figure, can he have in mind?

<i>Amyx (1941)</i>		<i>Jongkees (1951)</i>	
leky(thos?)	1 to 1 $\frac{1}{3}$ obols (Pl. 53, a-b, cf. c)	lekythos	1 drachme to 1 drachme 2 obols
Ly(dion?)	ca. $\frac{3}{4}$ obol (Pl. 53, d)	Lydion	5 obols
chytri(dion?)	$\frac{7}{8}$ obol (Pl. 53, e)	———,	“obscure” [This reading may justly be questioned].
“Larger Lydion”	$\frac{1}{2}$ obol (Pl. 53, f)	Lydion (“large”)	3 obols
Lepastis	$\frac{7}{20}$ obol (Pl. 53, f)		2 obols
Myrtote	$\frac{7}{20}$ obol (Pl. 53, g)		2 obols

Since there is no internal evidence in the numerals to help us, we must base our judgment on other factors. Date is of course relevant, and I tried to take due account of it (*op. cit.*, pp. 190-191); but still more important are the questions of relative size and of the amount and quality of decoration. These must all be small vases, to judge from the sizes of the lots in which they were sold (running up to 38 pieces). The entire range of prices if taken in obols is from about $\frac{1}{3}$ to 1 $\frac{1}{3}$ obols. We may compare these prices with those for small vases near the end of the century ($\frac{1}{20}$ obol to about $\frac{1}{3}$ obol each; above, p. 290), and we may note that the next-to-lowest unit price, $\frac{7}{20}$ obol each for lepastides and myrtotai, corresponds exactly with that for the *largest* of the lesser vases (*i.e.*, all but the kraters) in those later graffiti, namely, the bathea. On the other hand, if we read the prices in drachmai, we shall have to suppose that a half-dozen to nine lepastides or myrtotai would match in price the large red-figured hydriai, which were priced at 2 and 3 drachmai each some time *after* the supposed collapse in vase prices by which Jongkees²² would explain such wide discrepancies. All comparisons that are open to us demand for the sake of consistency (not to prove that prices were “low” or “high”) that these prices be read in obols.

But we have not yet done with these “Ionic” graffiti. Under *kylikes*, Jongkees’ list gives two prices, 4 drachmai 1 obol, and 1 drachme. The latter, placed in parentheses, is added from my mention of Kephisophon’s kylix (*op. cit.*, p. 189, where the price is stigmatized, for the circumstances, as improbably *high*). The former is derived from the graffito on the red-figured amphora, Munich 2309, decorated by Euthymides.²³ The transcription given here, Plate 53, h, is from Furtwängler and Reichhold.²⁴ Jongkees reads “12 kylikes for 50 drachmai,” or at 4 drachmai 1 obol

²² Jongkees, 1951, pp. 265-266, and cf. 1942, pp. 155-156. See further below.

²³ *A.R.V.*, p. 25, no. 3; facsimile of graffito, O. Jahn, *Beschreibung der Vasensammlung König Ludwig’s*, Munich, 1854, pl. 10, no. 410, and F.-R., I, p. 181.

²⁴ *Loc. cit.*

each. But, as Furtwängler²⁵ had already explained, the mark which Jongkees reads as N, the Ionic numeral "50," is really a monogram of *lambda-eta*, familiar from many other graffiti, probably standing for "lekythos" or "lekythoi,"²⁶ and not to be read as a price. The mark before the number 12 is, as Furtwängler says, a divider, about which more later. Thus we have a tally here, "twelve kyl(ikes?)," but not a price. This is, presumably, one of the eight price-inscriptions used by Jongkees which were "overlooked" by me,²⁷ the rest are to follow in due course.

It is time now to look at the graffito which inspired Jongkees' researches into the subject of price-inscriptions, that on a red-figured hydria in Utrecht, by the Tyszkiewicz Painter.²⁸ A facsimile of the graffito is reproduced here, Plate 54, a, from Jongkees' earlier paper.²⁹ Jongkees would read it "ὠν(έομαι ὑδρίας) 9 πρὸ (δραχμῶν) 57," that is, "I buy 9 hydria for 57 drachmai," or at 6 drachmai 2 obols each.³⁰ If this sense, or any sense which could yield a price, could be accepted for the graffito, we should have a very important addition to the corpus of legible price-graffiti. But objections come flocking to the mind. (1) Is any price mentioned at all, since there is no drachme sign anywhere in the graffito? (2) Does any part of the graffito refer to hydriai, since no trace of this word appears? (3) Is it legitimate to stretch *ov-* into *ὠνέομαι*, particularly since the writer of a vase-graffito would more probably be the *seller*,³¹ and since this use of the word is unexampled elsewhere, unless we agree with Jongkees on the next two items to follow? (4) Is this use of *πρό* for "at a price of" at all likely, especially since it would be unique here if so accepted? The reading has already been criticized on some of these grounds,³² but the full weight

²⁵ *F.-R.*, I, pp. 178-179.

²⁶ Amyx, *op. cit.*, pp. 197 f., note 117, and the references there cited; H. R. W. Smith, *C.V.A.*, San Francisco, 1, text, pp. 26 f. Cf. Pl. 53, b.

²⁷ Jongkees, 1951, p. 261.

²⁸ *A.R.V.*, p. 188, no. 53.

²⁹ Jongkees, 1942, p. 152.

³⁰ Jongkees, 1942, p. 154; 1951, list, p. 259. He had considered, and rejected, an alternative reading of 51 drachmai 1 obol.

³¹ Hackl, pp. 94-95, concludes that many, but not necessarily all, of the commercial graffiti and dipinti were written by buyers who visited the shops to place their orders. This seems very improbable to me. It is theoretically possible in isolated instances, but I find it hard to believe that the buyers made a regular practice of going to Athens to make a selection of vases for each separate order. It seems far more likely that, in the great majority of instances, the buyer (or jobber) never saw these vases in Athens, hence that the trade inscriptions were put on by the sellers. Often the graffiti look as if they were written *before the vase was fired* (as Furtwängler observed for Hackl no. 592, our Plate 53, f; cf. his *Beschreibung der Vasensammlung im Antiquarium*, Berlin, 1885; II, p. 510, on no. 2188; but he supposes that Hackl no. 547, our Plate 53, h, was written after firing; *F.-R.*, I, p. 181). A new study of this whole question would have great value, since the older theories (such as Hackl's) rested on much less information than we have now.

³² Cf. M. J. Milne in G. M. A. Richter, *Attic Red-Figured Vases, a Survey*, New Haven, 1946, p. 168, note 44. Jongkees' statement (1951, p. 258) that Miss Milne's proposal (to read ON and ΤΠΟ as abbreviations of vase-names, both sets of numerals as tallies) is not acceptable "because

of this evidence counts overwhelmingly against the acceptability of this inscription as a price-graffito at all. This, again, is not a question of "high" versus "low" prices, nor of preferences as between drachmai and obols, but one of plausibility on the quite different grounds mentioned above. Yet Jongkees' search for evidence to support this reading has drawn him into still deeper waters and has led to the formation of what might be called his *oneomai* group of graffiti, this one and two others which must now be examined. Jongkees' table of prices gives for lekythoi, besides that of one obol, drawn from Aristophanes, and those of one drachme and 1 drachme 2 obols (discussed above, p. 294), figures of three drachmai, 3 drachmai 5 obols, and 8 drachmai. For the amount 3 drachmai, he has a footnote, "not 4 dr., as was written in *Mnem.* 1942, p. 155." The only mention of 4 drachmai on that page, however, is to a *hydria*, which is identified, *ibid.*, note 27, as that (or those) in a graffito containing the figure 3 drachmai, and we must assume that Jongkees meant to put this entry under *hydria*, two lines above in his list.⁸³ Obviously, it does not belong with the lekythoi. Of the remaining two figures for lekythoi, the price of 8 drachmai each comes from his reading of the graffito on a calyx-krater in Copenhagen, by the Troilos Painter,⁸⁴ a facsimile of which is reproduced here, Plate 54, b. Jongkees interprets it thus: Around one side, counter-clockwise, ὠν(έομαι) λη(κύθους) 5 (τιμῇ) 40 (δραχμαί);

of the *ordo verborum*" simply begs the question; for, if her suggestion is taken, the numerals do come after the vase-names. And, for numbers before vase-names, cf. Hackl, pl. III, nos. 577 and 582. On the alleged use of *πρό* for "at a price of," see Jongkees, 1951, pp. 258 f. The question is not simply whether *πρό* can ever mean the same as *ἀντί*. In their full range of meanings, their uses obviously do overlap, as was recognized in antiquity (Bekker, *Anecd.*, I, p. 112; copied by Suidas and Photius, *s.v.*). It is, specifically, whether *πρό* was used to mean "priced at" a certain sum of money. The matter does not deserve a full discussion here, but it must be said that not one of the passages cited by Jongkees (or his sources) clearly exemplifies such a use of the word. (1) In *Lex Gortyn.*, I, 43 (XI, 16, also cited by Herwerden, seems to be a false reference), *πρό τουτό* means "in his stead." (2) W. Vollgraff's conjecture, *B.C.H.*, L, 1934, p. 150, concerning another Cretan inscription (cf. M. Guarducci, *Inscriptiones Creticae*, I, Rome, 1935, no. XXV, 3, which Jongkees should have consulted), if correct, would again give a meaning of substitution, "in place of"; but even this reading is proved incorrect by two other examples of the same type (Guarducci, *op. cit.*, nos. XXXI, 7 and XXXI, 8). (3) Sophocles, *Elec.*, 495: *πρό τῶνδε* is best rendered "therefore," "because of this"; text perhaps corrupt, as Jongkees might have noted. (4) Pindar, *Ol.*, X, 22 sq. (again corrupt?) *ἔργων πρό πάντων*: "more to be prized than," i.e. "worth more than" all labors. Cf. Sandys, Loeb C. L., *ad loc.* (5) Xenophon, *Men.*, II, 5, 3, not cited by Jongkees, has a similar sense: *πρό πάντων χρημάτων* is clearly not "in exchange for," but "in preference to" any amount of money; and the text has been questioned (cf. E. C. Marchant, O.C.T., ed. 2, *app. cr. ad loc.*). Whatever may still be in doubt about these passages, they can scarcely be thought to support Jongkees' interpretation of the Utrecht graffito.

⁸³ Cf. Jongkees, 1951, p. 262 (*hydria*), where it is mentioned also as one of the graffiti "not known" to me (see my [1941] p. 197, note 114). The price of 3 drachmai for a hydria seems plausible enough, but we do not know that a unit price is meant by this graffito. I do not see, either, why this fragment—perhaps from the foot of a krater, as Orsi says—should necessarily be dated "before ab. 470," since it is described among sporadic finds, without context.

⁸⁴ *A.R.V.*, p. 191, no. 10; facsimile of graffito, *C.V.A.*, Copenhagen, 3, text, p. 105.

around the other way, clockwise and retrograde, σκυδλ- 2, τι(μῆ) 12 (δρ.) 3 (ὀβ.). Taking the le(kythoi) first, we can see again, as in the Utrecht graffito, formidable problems, the main one being that the sign before the numeral 40 can hardly be a 5, lying on its side, but must be simply a divider, like that on the amphora in Munich with the "kylikes" graffito,³⁵ and like that on a vase in New York, to be considered presently. Hence no reason exists for supposing that the number 40 is a price, and not simply a tally. *Oneomai*, too; and it is not even clear in this case that we have ON left-to-right rather than NO retrograde. The other half of the graffito is equally difficult: Jongkees tells us that it gives a unit price of 6 drachmai 2 obols for a *skydl*-, but what on earth is a *skydl*-, in Greek or any other language? I had (*pace* Jongkees, 1951, p. 269) studied this graffito hopefully, but I had, with regret, come to the same conclusion about it as Blinkenberg and Johansen: "longue inscription indéchiffable."³⁶

The third "*oneomai*-inscription" is written on the hydria Louvre G 178, decorated in the manner of the Berlin Painter.³⁷ The graffito is reproduced here, Plate 54, c.³⁸ Jongkees asks us to read it thus: ὦν(έομαι) λη(κύθους) 7—δῶσ(ω) (δραχμαῖς) 27, *i.e.*, lekythoi at 7 for 27 drachmai, or at just under 4 drachmai each. I had made, and still make, no sense of this graffito. Again, *oneomai*, and again, no sign of a drachme anywhere; and here, instead of *pro* for *time*, we must read δῶσ(ω), spelled with an *omega*, in spite of the *omicron* which begins ὦν(έομαι). Hardest of all to accept, however, is the linking together of such widely scattered elements in the graffito as the ON (or NO?) in the center, the λ out on the edge (if that is what he means),³⁹ and the δῶς⁴⁰ far around on the opposite side of the edge. It is not credible that these parts were meant to be read together so as to make consecutive sense.

The three graffiti in which Jongkees reads ὦν(έομαι) are in various styles of

³⁵ Above, pp. 294-295. There, the sign opens leftward, here rightward, but the meaning must be the same. Cf. also Naples 3360, Heydemann, pl. XV.

³⁶ *C.V.A.*, *loc. cit.*, I had once tried putting NOΣ together, retrograde, and apart from the other signs; and attempted, continuing leftward, to read κύ(λικες) Δ λ(ήκυθοι) ||, τι(μῆ) Δ || Ξ, *i.e.*, 10 kylikes and 2 lekythoi, price (for the lot) 12 drachmai 3 obols, but had given all this up as wishful straining for sense. It may be mentioned, incidentally, that Jongkees' transcription is faulty (1951, p. 262): he reads 12 dr. 4 ob. (see facsimile).

³⁷ *A.R.V.*, p. 145, *omicron*.

³⁸ From the facsimile in *C.V.A.*, Louvre, 6, III Ic, text, p. 41, which seems, as far as one can make out, to agree with the photographic reproduction, *ibid.*, pl. 54, 7. Jongkees' complaint (1942, p. 153, note 11) that the transcription in *C.V.A.*, text, p. 41 is incorrect in that it does not mention the letters ΛΕ would have been answered if he had looked at the top of the next column: "et de l'autre côté ΛΕ."

³⁹ Cf. Jongkees, 1942, p. 153 and note 111, the sense of which is not clear to me. If he means that the peculiar sign to the *right* of ON (*sic*) should be read λη(κύθους), the case is not improved.

⁴⁰ The *sigma* of δῶς may be spurious (see below); and is not the mark before the figure 27, once again, a divider? One might by this time almost be ready to suspect that this sign, which separates letters from numerals in the cases thus far noticed, may be a warning that the number to follow is *not* a price.

writing, hence it is unlikely that they have any significant connection with one another, or that ON (or NO) can mean the same thing in each case. There is, on the other hand (as was pointed out to me by Miss Milne), a graffito (Pl. 54, d) on a lost vase once in the Canino Collection together with the Louvre hydria,⁴¹ which is so closely related to the Louvre graffito that, unless it is very inaccurately transcribed, it condemns absolutely the readings of both $\acute{\omega}\nu(\acute{\epsilon}\omicron\mu\alpha\iota)$ and $\delta\acute{\omega}\sigma(\omega)$ (compare Pl. 54, c with Pl. 54, d). The three large letters, *xi*, *delta*, and *omega*, form a group quite distinct from the rest of the signs. They cannot logically be connected with any numbers in the graffito, yet, on the other hand, they are matched by the same group of letters on the Louvre graffito. Again, there is ON (or NO), and no figures to be read with it. We need not carry the comparison further to see that the meaning of these signs in the Louvre graffito cannot be what Jongkees proposes, since the same group in the lost graffito cannot possibly have had such a sense.⁴²

For the *skydl*—, mentioned above, there is company in the *nyko*—, priced by Jongkees at 4 drachmai 3 obols each. This item appears in a graffito on the krater New York, Metropolitan Museum 06.1021.149, by the Orchard Painter.⁴³ The facsimile is repeated here, Plate 54, e.⁴⁴ Jongkees reads, “5 *nyko*—, 23 drachmai.” The mark⁴⁵ before the number 23 is read by him as the number 5 lying on its side, presumably to distinguish it from the supposed price which follows. But surely this mark is a divider, as in the Copenhagen and Munich graffiti already discussed,⁴⁶ and there is no warrant whatever for reading the number 23 as a price. ΝΑΚΟ - also is strange for Greek; possibly the beginning of a (non-Greek) consignee's name? Or parts of two words, run together? We must conclude, in any event, that ΝΑΚΟ - is not

⁴¹ *Museum Etrusque de Lucien Prince de Canino—Fouilles de 1828 à 1829 = Vases peints avec inscriptions*; Viterbe-Tosoni, 1829, p. 112, pl. XXIX, no. 1198. The Louvre vase and its graffito, *ibid.*, no. 1194. The description of the painting on No. 1198 also suggests proximity to the Berlin Painter.

⁴² The question of the copyist's accuracy in transcribing this lost graffito, if invoked, would not encourage the belief that any significant numerals were omitted. Between the same copyist's transcription of the Louvre graffito and the photograph-plus-facsimile in *C.V.A.*, (above, note 38), only minor differences are present. He leaves out the scratch below the tail of the *omega*, perhaps rightly judging it to be accidental, and the *lambda-epsilon* on the edge; nothing more. If the lost vase could be found, the question would be finally settled, but there is little doubt what the answer would be.

There is another graffito with ON, recently published in *C.V.A.*, Schloss Faisanerie, I, p. 31, on a column-krater by the Pig Painter (*A.R.V.*, p. 371, no. 12). Apparently it reads ON ΚΥΛΙ ΚΙ ΚΟ. The word *κυλι(ξ)* or *κύλι(κες)* may be recognized (cf. Brommer, *loc. cit.*; and above, p. 207, note 50), but I can make no sense out of the rest, certainly nothing suggestive of a price.

⁴³ *A.R.V.*, p. 346, no. 2.

⁴⁴ From Richter and Hall, *R.-F. Ath. Vases*, I, p. 223, fig. 34, no. 89; cf. Milne, *ibid.*, p. 222.

⁴⁵ Cf. Milne, *loc. cit.*, who cites, among others, the mark in the Copenhagen graffito as a parallel case.

⁴⁶ Cf. above, pp. 294-295, 296-297.

a vase-shape, that the next mark is not a "5," and that the final numeral is not a price but a tally.

Passing over the next four entries in Jongkees' list, which were treated above (pp. 289-292) with kraters, we come to *ichthyai*, priced at 2 obols each (Hackl, Nos. 601-601a, pp. 54-55, pl. III). The graffiti are shown here, Plate 54, f-g, after Hackl. The inscriptions occur on two black lekanides, one in Munich, the other once in the Pourtales Collection, Paris. From Hackl No. 601a (Pl. 54, f) Jongkees reads Ἰχθύαι 11, (τιμῇ) δρ(αχμαὶ) 4, pricing *ichthyai* at $2\frac{2}{11}$ obols each. I had given this up as too difficult; the style of notation, ΔR IIII instead of ΙΙΙΙ, would be peculiar, and I could form no clear idea of what an *ichthye* (or *ichthya*) might be.⁴⁷ It is possible to think of vases for which such a name and price might be suitable, but the other difficulties should deter us from trying too hard. Similarly, for Hackl No. 601 (Pl. 54, g), Jongkees reads Ἰχθύαι 14, τι(μῇ) (δραχμαὶ) 4, which would give a unit price of $1\frac{5}{7}$ obols. But the graffito contains nothing even suggestive of "drachme," and the reading τι(μῇ) in the second batch of numerals seems dubious. It would be wise, then, to omit the evidence of these graffiti for the price of *ichthyai* as too problematic to be useful.

The three following items, listed by Jongkees, are discussed in my earlier paper (p. 198, note 125), and need not detain us here: "Skyphos, $\frac{2}{3}$ obol" (C.V.A., Braunschweig, pl. 27; facsimile, text, p. 34, fig. 14); "Pelike, $\frac{1}{2}$ obol" (Hackl, No. 608; pelike, Berlin F 2361); and "Black cup, $1\frac{2}{3}$ obols" (Hackl, No. 609; black-glazed cup, Berlin F 2734). Even if these prices should be right, we do not know that they refer to the vases on which they are found, or even to uniform lots of vases of one shape. I had, therefore, assayed their evidential value at footnote level.

There are two prices taken from graffiti which appear as newly added items in Jongkees' table: "spathe, 1 drachme" and "krater, $3\frac{2}{3}$ obols," both drawn from Beazley's article, "Some Inscriptions on Vases, IV," *A.J.A.*, XLV, 1941, p. 598, No. 12, and p. 597, No. 9. The former is on the neck-amphora Boston 03.821, by the Kadmos Painter,⁴⁸ the latter on the red-figured column-krater Berlin Inv. 2928. For *spathai*, the inscription seems clear enough, and it must mean, as Beazley says, that *spathai* are here priced at 2 for 2 drachmai, or at 1 drachme each. But what is a spathe? If it is a vase-shape, as Beazley thinks "it really ought to be," one does not know what kind of vase. Perhaps, rather, a dip-stick for perfume (cf. above, pp. 215-216 and note 121), of some unspecified but relatively valuable material? Thus far, at least, the inscription adds little strength to a list of prices for vases.

The other new entry, on kraters, also raises problems. Jongkees takes the two

⁴⁷ On the meaning of ἰχθύα (or ἰχθύη), cf. Liddell-Scott-Jones, *s.v.* ἰχθύα, II. A 'fish-pot,' as there defined, from Hackl, No. 601? Or a fish-plate, of some sort? Or a lekanis, like those on which the graffiti appear?

⁴⁸ *A.R.V.*, p. 805, no. 19.

lines of writing to mean that 10 *krateres korinthioi* were priced at 6 drachmai, or at about $3\frac{2}{3}$ obols each. Beazley, on the other hand, says, "but I do not understand why the vase-name is repeated," and holds the sense to be uncertain. Column-kraters are usually big vases (the one which bears this graffito is 0.40 m. high), and a unit of less than 4 obols would be surprisingly *low*, in comparison with the closely contemporary⁴⁹ Polygnotan hydriai at 2 and 3 drachmai each. Beazley was doubtless right to reserve judgment on the meaning.

There remains the painted inscription on the Hearst "two-obols" amphora,⁵⁰ which Jongkees will not accept as a price. This vase has been much discussed, both as to the meaning of the pictures and as to the purpose of the inscription, and there would be no gain in reviewing here all the theories and arguments which it has provoked (cf. my paper, pp. 182-190). After prolonged study of both pictures and text, I could find no acceptable sense which would relate them to each other,⁵¹ and concluded that the inscription must refer to the vase itself, stating that its price was two obols. Jongkees objects to this interpretation because of the fact that $\delta\upsilon'\acute{o}\beta\epsilon\lambda\acute{o}\varsigma$ must then be in the accusative case (answered to my satisfaction, in my paper, p. 187), and because $\acute{o}\beta\epsilon\lambda\acute{o}\varsigma$ then has to mean $\acute{o}\beta\omicron\lambda\acute{o}\varsigma$, "obol" (which still seems appropriate for a sixth-century inscription).⁵² Believing that the pictures and the inscription must be connected, he proposes the reading, $\Delta\upsilon' \acute{o}\beta\epsilon\lambda\acute{o}\varsigma$. *Kaì mē θίγῃς* (two sentences). These, he says, are the words of the hoplite, who "has in mind to prevent" the naked tripod-carrier from making off with the tripod. Not Herakles stealing Apollo's tripod, for that possibility has been eliminated (see my p. 182), but "a re-enactment of Herakles' theft of the tripod." The naked man is impersonating Herakles, and the hoplite (a policeman?), in pursuit of the tripod-thief, says, "Two spits! And don't take it"; for "perhaps the thief, when detached, had to pay a traditional fine of two spits, that is: in money of ancient times." But the hoplite's panel should be the main side

⁴⁹ Cf. Beazley, *op. cit.*, p. 597: "The date is about 450-440 B.C., and the style recalls the Chicago Painter."

⁵⁰ Now New York, Metropolitan Museum of Art, No. 56. 171.13.

⁵¹ F. P. Johnson, *C.P.*, XXXVIII, 1943, pp. 76 f., suggests that the hoplite may be speaking as a mercenary soldier, offering his services for two obols (a day); or, that the inscription may be erotic (cf. Plautus' *Scorta diobolaria*, *Poen*, 1, 2, 58). But either of these interpretations would leave the tripod-bearer stranded, and the two pictures should be related to each other (cf. my p. 182; but see also below, p. 301).

⁵² Jongkees bases his objection on the findings of M. N. Tod, *Num. Chron.*, Ser. 6, VII, 1947, pp. 3 ff., that the occurrence of $\acute{o}\beta\epsilon\lambda\acute{o}\varsigma = \acute{o}\beta\omicron\lambda\acute{o}\varsigma$, "obol," is rare. This argument is not valid, since $\acute{o}\beta\epsilon\lambda\acute{o}\varsigma$ for "obol" does exist, and is in fact the only form that is known in Attic inscriptions of the archaic period. Cf. Tod, *op. cit.*, p. 3, who cites for $\acute{o}\beta\epsilon\lambda\acute{o}\varsigma$ *I.G.*, I², 3, line 22 (dated 485/484 B.C.), and adds that the new form $\acute{o}\beta\omicron\lambda\acute{o}\varsigma$, in *I.G.*, I², 6 (corrected from the earlier reading $\acute{o}\beta\epsilon\lambda\acute{o}\varsigma$) first appears in this latter inscription (ca. 460 B.C.). The form $\acute{o}\beta\epsilon\lambda\acute{o}\varsigma$ for "obol" is attested also in a still earlier Attic inscription, belonging to the late sixth century B.C.; cf. E. Vanderpool, *Hesperia*, XI, 1942, p. 332, line 13 (not mentioned by Tod). Far from "presenting difficulty," then, the form $\acute{o}\beta\epsilon\lambda\acute{o}\varsigma$ for "obol" appears to be the proper one in the archaic period.

of the vase,⁵³ and there is no shred of positive evidence to support any of the steps which link this theory together. In particular, the two inscriptions at Delphi which Jongkees interprets as evidence for an Athenian ritual of "tripod-theft" and "tripod-recovery" refer to quite a different sort of tripodophoria, as various scholars had already observed.⁵⁴ Hence this whole interpretation is contradicted by the very documents which are cited in support of it.⁵⁵ Jongkees' attempt to read into the vase-inscription a sense that is relevant to his story only emphasizes the improbability of this whole line of argument.

Meanwhile, nothing has come to my attention which convincingly demonstrates that the inscription *cannot* state the price of the vase, least of all any indication that such a figure would be out of scale with prices of Greek vases or other comparable objects as known from other sources. An adverse opinion on this interpretation has, it is true, come from Sir John Beazley:⁵⁶ "A. Warrior. B. Victorious athlete carrying tripod. On the inscription . . . I am inclined to take this (with Naber and Kretschmer) as for Δύ ὀβελῶ καὶ μὴ θίγη(ι)ς; and to explain it as a catch phrase of the moment, with a παρὰ προσδοκίαν: instead of 'Two obols, and take what you want,' 'Two obols—and hands off.'" But whatever the merits of this particular case, it cannot be said fairly that my interpretations of price-graffiti depend upon it; those readings have their own justification and their own internal consistency, as has been

⁵³ Jongkees' allusion to the hoplite's being on the alert (1951, p. 264), because of his "large eye," etc., uses evidence which might better be interpreted to mean simply that this side is the front (*i.e.*, Side "A"), for the decoration, simple though it is, seems on the whole richer than that of the other panel. The hoplite's eye is larger than that of the tripod-bearer because the whole head is larger; but it is also more elaborately drawn. It is therefore a reversal of roles to make him trail behind the tripod-bearer.

⁵⁴ The two inscriptions which are held to refer to such a practice are published by Couve in *B.C.H.*, XVIII, 1894, p. 87, no. 9, p. 92, no. 10 (also *Fouilles de Delphes*, III, 2, nos. 32-33, and Dittenberger, *Syll.*³, nos. 728, I, 697, L). But Couve makes no mention of a tripod-theft, nor does Dittenberger. Nor does Deubner (*Attische Feste*, Berlin, 1932, p. 203, cited by Jongkees), who speaks simply of a ceremony in which, on the occasion of the Athenian Pythias, a tripod was brought from Delphi to Athens, perhaps in commemoration of the founding of the Pythion at Athens. The ritualistic re-enactment of Herakles' theft of the tripod is also unlikely on more general grounds, namely that Greek cult and ritual only rarely was affected by myth (see especially M. P. Nilsson, *Cults, Myths, Oracles, and Politics in Ancient Greece*, Lund, 1951, pp. 10-11). In any case, this late revival of the Pythias, after a lapse of two centuries, introduced new ceremonies that did not rest on the old tradition but were created in the archaizing spirit of the Hellenistic age (cf. A. Boethius, *Die Pythais*, Diss., Uppsala, 1918, p. 140; and M. P. Nilsson, *Geschichte der griechischen Religion*, II, Munich, 1950, p. 80, concerning this very tripodophoria); hence it has little value as evidence for earlier practices. Jongkees' translation of ἔλαβεν in the first inscription as "took by force" is therefore completely arbitrary (against it, see Boethius, *op. cit.*, p. 78, note 1), as is his notion that the tripod in the second inscription was being *restored* to Delphi.

⁵⁵ As a final piece of documentation, Jongkees invokes the support of *R.E.*, V, col. 1681, for the tradition that Herakles had "perhaps" brought the tripod to Athens; but Athens is not mentioned there, nor is Herakles brought into association with any Athenian cult in which a tripod is involved.

⁵⁶ *A.B.V.*, p. 136, under no. 50.

shown. The loss of this inscription as the statement of a vase-price would therefore not affect in the slightest degree the validity of my interpretations of the graffiti.⁵⁷ The fourth of Jongkees' objections (above, p. 288) must therefore be dismissed as trivial if not altogether irrelevant, with the further observation that his attempt to provide a satisfactory alternative meaning for the inscription leads to no acceptable results.

In answer to Jongkees' three other complaints, the foregoing analysis of his interpretations of vase-graffiti might have been left to speak for itself. The questions at issue may, however, be more definitely resolved if we consider them while we have before us a tabular digest of that analysis. Following is a transcript of Jongkees' table of prices, with my comments alongside which summarize the findings reported above. Since the matter of dates figures prominently in Jongkees' arguments, I list first all of the items which he would date "before about 470 B.C.," then the rest separately.

<i>Shape</i>	<i>Price, each</i>	<i>Comment</i>	<i>Reference</i>
<i>I. "Before about 470 B.C."</i>			<i>Page</i>
Hydria	6 dr. 2 ob.	False reading (not a price?).	295-296
	3 dr.	Correct, but both should be dated well	293
	2 dr.	<i>after</i> 470 B.C.	293
Kylux	4 dr. 1 ob.	False reading (not a price).	294-295
	(1 dr.)	Correct, but not valid as a price, and not given in my table.	294
Lekythos	8 dr.	False reading (probably not a price).	296
	3 dr. 5 ob.	False reading.	296-297
	3 dr.	Wrongly placed; belongs under <i>hydria</i> ; not clearly a <i>unit</i> price; and date not established.	296
	1 dr. 2 ob.	Ionic notation; I read 1½ obols.	294

⁵⁷ Cf. Jongkees, 1951, p. 265: "With this (*i.e.*, his rebuttal concerning the Hearst amphora's inscription) disappears the last support for Amyx' view that vase prices were low throughout the 6th and 5th centuries."

<i>Shape</i>	<i>Price, each</i>	<i>Comment</i>	<i>Reference</i>
	1 dr.	Ionic notation; I read 1 obol.	294
Skydl-	6 dr. 2 ob.	False reading; name impossible as Greek.	297
Nyko-	4 dr. 3 ob.	False reading (not a price); and name unintelligible.	298
Lydion	5 ob.	Ionic notation; I read <i>ca.</i> $\frac{3}{4}$ obol. Graffito also suspect? ⁵⁸	294
<i>II. "after about 470 B.C."</i>			Page
Krater	4 ob.	Correct, but incomplete: add "and $4\frac{1}{2}$ ob."	289-290
	$3\frac{2}{3}$ ob.	Doubtful reading.	299-300
Lekythos	1 ob.	Correct (from Aristo- phanes). My table has it in parentheses.	296
Pellinion	$1\frac{1}{2}$ ob.	False reading; and incomplete.	290-291
Oxis	1 ob.	False reading; and incomplete.	290-291
"Baphos"	$\frac{1}{3}$ ob.	Correct ($\frac{7}{20}$ ob.). I read "bathy," with Hackl.	290
Oxybaphon	$\frac{1}{3}$ ob.	False reading; and incomplete.	290-291
Ichthye	2 ob.	Dubious readings; size and shape of vase also unknown.	299
Skyphos	$\frac{2}{3}$ ob.	Price may be correct; applicability doubtful.	299
Pelike	$\frac{1}{2}$ ob.	Price may be correct; applicability doubtful.	299
Lekythis	$\frac{1}{2}$ ob. (or 2 ob.)	Withdrawn.	292-293

⁵⁸ Cf. Langlotz, *Würzburg*, p. 175, on no. 321.

<i>Shape</i>	<i>Price, each</i>	<i>Comment</i>	<i>Reference</i>
Black cup	1⅔ ob.	Price may be correct; applicability doubtful.	299
Lydion ("large")	3 ob.	Ionic notation; I read ½ obol.	294
Lepastis	2 ob.	Ionic notation; I read ⅞ obol.	294
Myrtote	2 ob.	Ionic notation; I read ⅞ obol.	294
Spathe	1 dr.	Price correct; name of shape (if a vase) unintelligible.	299

This table brings into sharp relief the question of "obols versus drachmai," as Jongkees would have it in his third point. Of the twenty-eight items, only six have to do with Ionic notation, in which such a choice is open. If the rest are to be argued at all, they must be argued on totally different grounds. Twelve of them rest on false or dubious readings, which necessitate either a change in the accepted text or the reading as prices of numerals which are surely or probably not prices but tallies. Two refer to names which surely cannot be accepted as vase-shapes, and two others to names which are not clearly so identifiable. The rest, in so far as they differ from my entries, may give correct prices, but their applicability as unit prices to the specified vase-shapes is open to doubt, or there is some other question as to their aptness in the intended context. Therefore, when Jongkees states (1951, p. 262) that he "prefers to read drachms," it can only mean, in most of these cases, that he prefers to read obols as drachms, or tallies as drachms.

In matter of chronology, which forms the substance of Jongkees' second complaint, he begins with a curious dilemma and then proceeds to offer an even stranger solution. First he objects that "remarkably enough, the prices, expressed in obols according to Amyx, did not change very much in these one-and-a-half century."⁵⁹ This statement is contradicted by my earlier comments (*op. cit.*, p. 189), which also emphasize that our lack of precise information limits us to very rough comparisons. But then Jongkees advances his theory that the prices of Attic vases must have collapsed suddenly around 470 B.C., in opposition to the general rise in wages and costs over the fifth century,—a theory which presumably would justify the peculiar pattern of his table of prices: before about 470, nearly every piece is priced above (sometimes far above) one drachme; after that date, there is hardly any piece costing as much as a drachme (see table, above). But, if we set theory aside and look at the

⁵⁹ Jongkees, 1951, p. 261.

actual texts of the graffiti, and at the vases on which they are written, we see that there is serious trouble.

Of all the prices which Jongkees would place before about 470 B.C., the only ones which need even be debated on grounds of plausibility are the three which are obtained by reading drachmai in the graffiti with Ionic numerals, and these, even if so read, are among the lowest prices of the lot. It has been argued above (pp. 293 ff.) that obols should be read. Among the others, not one is acceptable in the sense in which he would have us understand it. Six of them are derived from false readings of the graffiti. Another (lekythoi at 3 drachmai) is misplaced (put it with hydriai, *i.e.*, big vases), its date is not clear, and the sense as a unit price is not established. Finally, we come to the large hydriai at two and three drachmai each. These are correctly priced, according to currently accepted belief, but they are flagrantly misplaced; the Group of Polygnotos belongs to the following generation. Hence they, the last remaining higher-priced items in Jongkees' list which are dated "before about 470," must be transferred to the other part of his table, where they become most deadly enemies of the very hypothesis in support of which they were cited.⁶⁰

No "high" prices remain from those dated before 470, so there is little room left for argument concerning Jongkees' explanation as to why there was, according to his belief, a sudden and permanent *drop* in the prices of Athenian pottery after that date (1951, p. 265): "The cause will have been the blow which struck Attic vase export, when Etruria came into conflict with the Greeks and was conquered by them." On the other hand, there is a historical fact which seems to need stating. The wholesale export of Attic vases to the West, Etruria as well as other places, continued in undiminished strength long after 470 B.C. We need only to glance into the Index of Proveniences in Beazley's *A.R.V.*, for instance, to see that this is true. The entries under almost any important Etruscan site⁶¹ bear witness to the unceasing flow of Attic vases to Etruria throughout the fifth century. The matter scarcely needs to be pursued beyond this point, even though there are other aspects of Jongkees argument to which one might well protest.⁶²

⁶⁰ Since Jongkees seems to regard the single dividing date, about 470 B.C., as a decisive landmark, it may be well to add another observation. Having noticed his dating of the hydriai, we may also ask by what criteria he would place vases of late archaic style, such as those which provide the graffiti concerning *lydia meizo* and *lepastides* (Berlin 2188: Hephaisteion Painter; *A.R.V.*, p. 192, No. 1, and p. 954), and *myrtotai* (Northwick Park stamnos: Dokimasia Painter; *A.R.V.*, p. 272, No. 27), "after about 470." On the finer distinction of dating by which Jongkees puts the Syracuse pelike (*lekythides*) later than the Orchard Painter's krater in New York (*Nyko-*), his chronology is daring; on those other matters, it is nothing short of revolutionary.

⁶¹ E.g., Bologna (p. 970), Cervetri (p. 971), Orvieto (p. 975), chosen almost at random.

⁶² His assumption that the importation of Attic vases into Etruria fell off sharply "after about 470 B.C." seems to be connected with the defeat (he must mean "conquered" in this sense, 1951, p. 265) of the Etruscans in 480 B.C. (Jongkees does not explain why he would shift the effective date downward ten years). The idea of a collapse in the market appears to go back to a time when

I have left until last Jongkees' first objection, that "my" prices are "often impossibly low," because to me it seems logically subordinate to the other questions. How are we to know whether any price is "high" or "low," unless we have some other actual prices with which to compare it? Here a principle of operation needs to be made clear. This is that, when one is collecting evidence for prices, one should not look for "high" or "low" prices, but merely for prices. Where the sense is plain, they must be read as given; the prices may then, if possible, be *interpreted* in the light of any known circumstances, but they may not be changed without very strong reasons. Where the sense is uncertain, we should look for consistency, which is not quite the same thing as looking for "highness" or "lowness." Where no acceptable sense can be extracted, the graffito should be set aside. Furthermore, as regards the question of consistency in prices, a whole host of complications enters in if we wish to take due account of all relevant factors: the date, the type of vase (size, amount and quality of decoration, etc.), the conditions of the sale, current prices for comparable objects and the probable cost of production are only a few such considerations. The difficulty is that we know all too little about most of these matters, and can only guess at their bearing on any given situation.

"Cost of living," which affects cost of production, is of course a highly relevant factor, which must be evaluated to the best of our ability, but it is a logical inversion of method to start from this, the more hypothetical end, and allow it to dictate the results at the other end, where direct evidence for prices already exists. The dangers of using the "cost-plus" method of estimating "probable" prices are obvious enough, and they need not be dwelt on here. However, the one case may be considered which Jongkees argues in specific terms. He doubts the unit price of $\frac{1}{20}$ obol for oxybapha, because this price, "at a time when 1 drachm was the normal daily wage, would mean that, if one man did everything, he had to produce more than 120 oxybapha a day."⁶³ But this will not do. One cannot relate cost of living to the maximum day's wage for a free (and often highly skilled) workman. We must ask, what was the probable average daily cost of maintaining a slave (remembering that women and children worked too) at this time? This is not any accurately determinable sum, but the evidence that we have would place it closer to one obol than to one drachme.⁶⁴ Even if it is put at 2 obols (a generous figure), Jongkees' "daily minimum

the distribution of Attic red-figure was less fully known (cf. Hackl, *op. cit.*, pp. 93-94, and A. Furtwängler, *Die antiken Gemmen*, III, Leipzig and Berlin, 1900, pp. 172-173). Whatever its source, it must now be given up, since it is based on false premises. For comments in similar vein, objecting to a notion of M. Pallottino's which seems curiously similar to Jongkees', see A. Rumpf, *A.J.A.*, LX, 1956, p. 74.

⁶³ Jongkees, 1951, p. 261.

⁶⁴ Cf., for example, H. Immerwahr, *T.A.P.A.*, LXXIX, 1948, p. 188, and the references there cited. Immerwahr concludes that the daily cost of food, though not definitely known for the fifth century, was apparently not more than one obol per day.

production quota " would immediately be reduced to (more than) 40 oxybapha per day, for the cheapest and presumably the smallest vase-shape for which a stated price is known. To compare this with a given production figure: we do know, for instance, that in one Roman brick factory each (slave) workman was expected to produce a minimum daily quota of 220 full-sized Roman bricks.⁶⁵ Is it conceivable, then, that a Greek (slave) potter could not have made more than 40 (or 80, or 120) oxybapha per day? Let us also put the question in terms of a comparison with actual prices. We know, again, that in the late fourth century B.C. at Eleusis the average price of bricks was around 38 drachmai per 1,000, or about 8 for one obol (in one case, the length is stated: 1½ feet), at a time when prices in general were appreciably higher than they had been a century earlier.⁶⁶ Was one fourth-century brick worth as much as 2½ fifth-century oxybapha? We might guess that this is plausible, but we need not guess, for the evidence tells us directly that it is true. We cannot argue, therefore, that the concrete evidence for prices which is placed before our eyes is invalid on the ground that the prices "are often impossibly low," and hope thus to find any defensible excuse for emending the texts which give us these prices.

It may be said, in summary, that the fruits of Jongkees' researches, so far as they differ from the results stated in my earlier paper, yield nothing which has seemed worthy of inclusion in the new treatment of pottery prices appearing above in Section IX. This Excursus explains, I hope in sufficient detail, my reasons for excluding his material.

D. A. AMYX

UNIVERSITY OF CALIFORNIA
BERKELEY

INDEX TO THE ATTIC STELAI, PARTS II-III¹

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⁶⁵ See Pritchett, Part II, pp. 282 f.; Dessau, *I.L.S.*, 8675; T. Frank, *Economic Survey*, I, p. 165.

⁶⁶ Pritchett, *loc. cit.*

¹ This Index includes the material studied in "The Attic Stelai" Part II, which was published by W. Kendrick Pritchett in *Hesperia*, XXV, 1956, pp. 178-328 (with appendix by Dr. Anne Pippin), and Part III, by D. A. Amyx, in the present volume of *Hesperia*. References to the latter publication have for reasons of economy been placed first, with only the page numbering given. An Index to Part I appeared in *Hesperia*, XXII, 1953, pp. 292-299.

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UNIVERSITY OF CALIFORNIA
BERKELEY

W. KENDRICK PRITCHETT

AN EGYPTO-ROMAN SCULPTURAL TYPE AND MASS PRODUCTION OF BRONZE STATUETTES

(PLATES 55-56)

IN these pages I am discussing two curious bronze statuettes in the collection of the Walters Art Gallery (Pls. 55, a, b, c) although I have previously published them more than once. Not of great beauty, they yet merit a fresh appraisal, for they are documents of a single sculptural type and, more important, of the means of its commercial mass production by a technique not too common in antiquity.

The more striking of these statuettes is a tense male figure which has been mounted as if seated on a modern base of stone fitted to its curves (Pl. 55, a, b).¹ The shoulders are hunched and the head shoved forward and to the left, while the enormous right hand is held meaninglessly before the waist with the fingers stiffly extended (the left hand is missing). The facial type, with its deep-set eyes glancing upward, its triangular forehead, tiny mouth, and hair that rises steeply above the center of the forehead, is derived from Alexander. I first published this statuette with five others that had been produced by the partial mould process of commercial duplication practiced in the province of Egypt.² The five listed were an Aphrodite of which exact duplicates exist elsewhere; a wrestler group of which there are innumerable near replicas; twin youths mounted side by side, having identical bodies and identical heads but differing in the turn of the neck; a pair of women on a common base, identical with each other except for this same difference at the neck; and a Jupiter of noticeable disproportion—his slim, youthful torso combined with a bearded

¹ Walters Art Gallery, no. 54.700. Ht. 0.17 m. In addition to the publications referred to here, it is also included in Exhibition Catalogue, *The Greek Tradition*, 1939, p. 74, no. 84; Hanfmann, *A.J.A.*, LVIII, 1954, p. 229; S. Reinach, *Répertoire de la statuaire*, V, p. 517, no. 10, with reference to sale in Paris, Feb. 12, 1923, no. 177.

² *Art in America*, October, 1943, pp. 182 ff.; the piece in question is fig. 6. On commercial reproduction see also my *Catalogue of Classical Bronze Sculpture in the Walters Art Gallery*, 1949, pp. xx-xxii and comment by Picard, *Revue historique*, LXXVI, 1952, p. 72. Since that time important new material has been discovered at Lixus in Spanish Morocco: two groups of wrestlers, exact opposites of each other, each composed of two figures very like one another. Further, one of the groups is very like the Theseus and Minotaur group in Berlin. See *Archivo Español de Arqueología*, XXIV, 1951, pp. 232 ff., figs. 22-24; *Zephyrus*, I, 1950, pp. 49-56, figs. 1-5; *Fasti Archaeologici*, V, 1950, pp. 390 f., figs. 112-113 and p. 389, no. 4529; *Arch. Anz.*, 1954, cols. 447-450, figs. 123-124. There exist three renditions of a single type of archaistic woman's figure, two of bronze and one of silver. Albizzati rejects two as forgeries, *Historia*, IV, 1930, pp. 621 ff.; Richter accepts both bronzes, *Catalogue of the Greek and Roman Antiquities in the Dumbarton Oaks Collection*, 1956, pp. 29 ff., no. 16, pls. XII, XIII. For duplication of a bronze object in silver in another instance see Picard, above.

head of small size and huge hands that carry divine attributes. The grounds for including the statuette shown on Plate 55, a and b in this category were his large hand and the singularly inappropriate Alexander face, peculiarities which I considered evidence of combining parts copied from three unrelated prototypes.

All conclusions regarding such duplicating by combining the products of partial moulds depend upon the research of Edgar.³ First, in his catalogue of plaster moulds in the Cairo Museum (1903) he described this technique, and then he tested his results on the Cairo Museum's bronzes which he published in a second catalogue the following year. He explained the moulds as intended to produce wax models after which to cast bronze statuettes. As Edgar imagined the process, an original wax model was cut in parts and a back and a front piece-mould taken from each part; then, the piece-moulds were combined, and into the complete mould wax was poured, congealing as a new model precisely like the first; from this point on, the *cire perdue* process followed its usual course until a bronze statuette identical with the original emerged. My contribution was the suggestion that piece-moulds taken from several statuettes produced cast wax parts that could be joined at various angles, correct and otherwise, with hand carving and modelling individually executed, so as to construct each new wax model and its derivative bronze statuette slightly different from all others. Such a technique, in principle like that of the coroplasts, had results like those conspicuous in the terracotta industry; that is to say, quantity and variety were achieved at the expense of correct anatomy and artistic unity.

In a catalogue entry subsequent to my first article⁴ I mentioned a flattened area back of the left hip of this statuette (Pl. 55, b) and interpreted the subject as a wrestler group in which one member was lifted free of the ground by another so that he was forced to press his left hip against the other's erect body. I was able to offer only distant parallels to this group, being at that time unaware of a group in Cairo which had already been published by Kirwan⁵ and which is reproduced here from his article (Pl. 56, a, b). It is composed of two contestants, one swung clear of the ground by the other but with his body still tense and his head and limbs active, in fact, almost identical with the figure we have been discussing, and its subject must be the "drop" of modern wrestling, a hold by which a person is raised clear off his feet in

³ C. C. Edgar, *Greek Moulds* (*Catalogue général des antiquités égyptiennes du Musée du Caire* VIII, 1903) and *Greek Bronzes* (same series, XIX, 1904). Moulds found later at Memphis are taken to be for silverware: O. Rubensohn, *Hellenistisches Silbergerät in antiken Gipsabgüssen* (*Aus dem Pelizaeus-Museum zu Hildesheim. Festschrift zur Feier der Eröffnung des Museums, 29. Juli, 1911*). On plaster casts from metalware see Richter, *A.J.A.*, LXII, 1958, pp. 369-387.

⁴ *Catalogue*, p. 68, no. 143, pl. 31.

⁵ Kirwan, *Bulletin de l'institut français d'archéologie orientale du Caire*, XXXIV, 1934, pp. 55 f., no. 49542, pl. IV. Ht. 0.185 m. See his subsequent remarks on the commercial mould process in Emery, *Royal Tombs of Ballana and Qustul*, 1938, p. 171. The information that the wrestling term is "drop" was kindly supplied by Professor Joseph Brown.

order to be dropped to the ground. Unfortunately Kirwan did not give the measurements of the individual participants, but his overall measurement of 0.185 m. for the group proves that the scale is smaller than that of the Walters figure (0.17 m.) which, however, since it exhibits the same pose and the same extraordinary tension of muscles, can be definitely ascribed to a larger group of the same "drop" type, perhaps 0.25 m. tall.

There is one slight difference from the corresponding figure in the Cairo group. With his free right hand our wrestler seems about to seize his opponent's arm instead of having already grasped it. There is no positive evidence of belonging to a group—no trace of a second figure or sign of mortising. Contact with the other wrestler must have been made by the left hand, now lost; understandably, the break occurred at the wrist, a weak place between two heavy masses. We may discount the possibility that, though intended for a group, the statuette never was so combined.

The existence of these two lifted wrestlers, so similar yet so different in scale, may be taken as evidence that the type was popular, and popular enough to be mass produced by mechanical means. That such means were more complicated and diverse than had been supposed either by Edgar or by myself is indicated by the methods of construction. Kirwan states that the lifted figure in Cairo is a solid cast, and that its left hand with wrist, right forearm, and right and left upper arms were cast separately and attached each to its adjoining part by a lead joint.⁶ These joints and a lead repair on the left knee he attests are original and since the excavation record is complete there can be no doubt that he speaks correctly. The Walters bronze is a hollow cast without joints. Duplication with the help of moulds took place by two processes: by combining wax parts cast in partial moulds and finishing the wax model by hand, and, alternatively, by combining small bronze parts cast in partial moulds. In either case, variation was achieved by choosing moulds taken from various original types. The prospects for almost unlimited variation and cheap production based on a few good models must have been enticing to lazy manufacturers.

Failing to find Kirwan's publication, I also missed the interpretation of another statuette in our collection (Pl. 55, c),⁷ a hollow figure in a curious pose—bent knees spread wide apart and bearded head tipped sharply forward and a trifle to proper left. The explanation was elusive because of the loss of both feet, most of the right arm and the whole left arm together with the shoulder. I supposed it to be a drunken

⁶ Kirwan, *op. cit.*, p. 56. A cutting of the shoulder to receive a separately cast arm is very clear on one of the Dioskouroi published in my previous article, *Art in America*, 1943, pp. 182 ff., fig. 1; *Catalogue*, p. 27, no. 48, pl. 12. Mortised in place, the arm would have to be secured by a binder, such as lead.

⁷ Walters Art Gallery, 54.723. Ht. 0.185 m. Purchased 1924, and said to have come from Asia Minor. Hill, *Catalogue of Classical Bronze Sculpture in the Walters Art Gallery*, p. 48, no. 98, pl. 22; Bieber, *Sculpture of the Hellenistic Age*, fig. 579.

Herakles and, indeed, examples exist of an inebriated Herakles supported by an attendant or falling over for lack of such support, but the drunken Herakles is never identical with this statuette, always having extended his right leg and tipped his head forward and in the direction of this outstretched leg.⁸ So, while the drunken group bears only a vague similarity to our statuette, the Cairo "drop" group we have been discussing (Pl. 56, a, b) includes an almost exact duplicate as its erect member, the similarity extending beyond the pose to details of the face with huge, round eyes and corkscrew curls of the beard. Moreover, when we scrutinize the Walters figure we discover that just where the right arm breaks off near the shoulder, there are heavy accretions of bronze that must be the remains of the second figure held with left hip and left elbow close to the shoulder of his opponent (cf. Pl. 56, a).

So the same erect wrestler is represented by the Cairo group and the Walters detached statuette, and still a third example is to be found in one of the plaster moulds from the Memphis *cache* (Pl. 56, c),⁹ a three-part mould comprising a bearded head and a torso down to the middle of the thighs. It is not easy to compare the sizes; the footless Walters bronze is preserved to a height of 0.185 m., while the mould, with its top and bottom borders included in the measurement and most of the legs excluded from the impression, is 0.145; the scales are not very different and they may be identical. Though I dare not claim this mould produced the figure in Baltimore or was made from it, and though it certainly has no direct connection with the much smaller wrestler of the Cairo group, the existence of this mould is positive proof that wrestler groups of the type we have been discussing were produced by moulds.

Face moulds could be interchanged at will, and a single type could by the change be made to represent many subjects. It is not very profitable to try to decide the meaning of our wrestler type, since we have very few examples of its use. A certain other wrestler type is known to have been adapted, merely by change of the face moulds, to represent Herakles, Hermes, and several athletes of quite different expressions.¹⁰ The Cairo group could be interpreted as Herakles lifting Antaios, the antagonist who had to be separated from earth, his source of strength, but it might be merely a simple *genre* subject. The Walters statuette, though it has an Alexander face, was not intended to represent the conqueror for he is unthinkable in the role of defeated wrestler. Rather, in a shop stocked with many moulds and among them

⁸ See the entry in my *Catalogue*. The best example is a bronze statuette in the Metropolitan Museum of Art, Bieber, *op. cit.*, p. 140, figs. 577-578; Richter, *Handbook of the Greek Collection*, 1953, p. 125, pl. 104, d.

⁹ Edgar, *Greek Moulds*, pp. 13 f., no. 32045, pl. III. Ht. 0.145 m. The effect of the spreading legs is heightened by the pour channels that form angles with the legs and create the appearance of knees at the wrong height.

¹⁰ Walters Art Gallery, 54.1050; Hill, *Catalogue*, p. 66, no. 140, pl. 30; *Art in America*, 1943, pp. 182 ff., fig. 3; Bieber, *Sculpture of the Hellenistic Age*, p. 151, fig. 643; compare Sieveking, *Die Bronzen der Sammlung Loeb*, pl. 21; *Jahrb.*, XIII, 1898, p. 177, pl. 11.

many representations of Alexander, some worker chose a mould to represent an athlete or, conceivably, Antaios. Such misuse of the Alexander face is not without precedent.¹¹

More interesting than the problem of identification is the problem of dating, and equally difficult. Unfortunately there is no hope of establishing the positive or even the relative dates of these items. What evidence accrues from study of their details individually suggests that all were produced during a short period of the early days of the Roman Empire. Our Plate 55, a has, as we have repeatedly stated, an Alexander head, and with its bristling front locks and smooth crown surrounded by a band with hair rampant before and curled behind, it resembles the later Alexander portraits more than his contemporary ones.¹² Large hands, such as it sports, were classed by Neugebauer as a Roman characteristic¹³ and although I consider this large hand to be due to a mixing of moulds, I nevertheless recognize the similarity of the whole figure to the large-handed figures Neugebauer was discussing. The erect statuette in Baltimore (Pl. 55, c) is better modelled and there are grounds for assigning it to the Hellenistic age, but the curious treatment of the beard indicates something quite different. This beard is composed of long, tightly twisted locks, each ending in a wisp on the chest, its twists rendered by deep diagonal cuts. Such beards occur rarely except on a certain type of practical attachment: the busts of silenes that ornamented many couches and a few other objects. An example is illustrated in our Plate 56, d.¹⁴ The ornaments from couches were studied by Greifenhagen¹⁵ who found that though the silene type began in the second century B.C., the examples with beards of just this kind, notably one in the Terme and one attached to an incomplete couch formerly on

¹¹ For switching of heads of Alexander and others see J. H. Young and S. H. Young, *Terracotta Figurines from Kourion in Cyprus* (Museum Monographs), 1955, pp. 229 f., and J. H. Young, *Bulletin of the Walters Art Gallery*, VI, 2, November, 1953.

¹² On Alexander types, see Bieber, *Proceedings of the American Philosophical Society*, XCIII, 1949, pp. 373-427.

¹³ For example, the negroes and the Theseus group, both in Berlin; Neugebauer, *Die griechischen Bronzen der klassischen Zeit und des Hellenismus* (Katalog der statuarischen Bronze im Antiquarium, II), 1951, p. 89, and *Schumacher-Festschrift*, 1930, p. 235.

¹⁴ Walters Art Gallery, no. 54.878. Total height, 0.102 m. The head is complete at the back and free; the bust is open and circular. Both ivy crown and the leg of the nebris are strongly undercut; apparently they were modelled in wax and added to the model which was mouldmade. Similar ivy crowns appear on the bust in the Terme and on the horse head on the same couch; see *Röm. Mitt.*, XLV, 1930, pl. 45. The eyes have large, deep centers, pierced clear through the wall of bronze; for such eyes in silver on bed attachments see Fiegel in *Schumacher-Festschrift*, 1930, p. 281, pl. 27; for the same in bronze, the wagon attachments of note 15; for varied treatment of eyes, Neugebauer, 87 *Berlin Winckelmannsprogramm*, 1927, pp. 13 f.

¹⁵ Greifenhagen, *Röm. Mitt.*, XLV, 1930, pp. 153-159, pls. 39 ff. For further comment on the wagon attachments see Von Mercklin, *Jahrb.*, XLVIII, 1933, pp. 94 ff. For the copying of Greek couches by Romans see Hoffman, *A.J.A.*, LXI, 1957, pp. 176 f. Two more silenes' busts have been found at Volubilis: Thouvenot, *Mélanges Charles Picard*, 1949, pt. II, pp. 1003-1007, figs. 3, 4; and Picard, *Rev. Arch.*, ser. 6, XXVII, 1947, pt. I, p. 201.

the Paris market, were made shortly before the destruction of Pompeii, while a pair of wagon fixtures from the Hadrianic period have even more tightly twisted, more stylistically treated beards. I therefore must date Plate 56, d and Plate 55, c within the first century after Christ and with them the Cairo group, Plate 56, a, b, on which the beard treatment is similar, though less carefully executed (the Cairo mould is so badly preserved that it is difficult to judge the beard; it seems rather dissheveled). Further evidence of the date of the Cairo group is provided by the curious linear treatment of the legs which recurs on a group dated by Neugebauer in the Roman period¹⁶ and by the face of the lifted figure which is not altogether unlike the "Alexander" face in Baltimore, though it has more of the satyric about it. In summary we may say that the various statuettes have many stylistic and technical traits in common with each other, and that every such trait of one or all that can be classified is characteristic of bronze sculpture of the early days of the Roman Empire. This conclusion reinforces that of Edgar, that the moulds from the Memphis *cache* are Roman, a conclusion which had the telling support of the fact that many of Memphis moulds were for Roman practical utensils.

I have compared the technique of constructing bronze groups to that of the coroplast, but whereas the latter was limited by the feebleness of clay, the metal-worker had tremendous scope for the employment of his moulds. The sculptor of terracotta contented himself with combining heads, torsos and limbs, chosen at random, to form bizarre figures, rarely groups, while the bronze sculptor composed wildly, building assymetric structures which almost defy the laws of gravity and suggest a mere moment in time, achieving extreme instability in the type under discussion. How much greater was his freedom than that of the sculptor in marble, one hardly needs to remark. Recognition of the vast difference in opportunity offered artists by the various *media* should deter us from drawing hasty comparisons between statues in different materials and deceiving ourselves about date and stylistic development. If my dating, based on evidence so far available, is correct, these daring groups were manufactured by the partial mould process after the peak of centrifugal sculpture in marble had been passed and during a period of flat marble groups, conceived for a single point of view.¹⁷ This apparent conflict offers a challenge for further study.¹⁸

¹⁶ Neugebauer, *Die griechischen Bronzen der klassischen Zeit und des Hellenismus* (Katalog der statuarischen Bronzen im Antiquarium, II), 1951, p. 86 and *Schumacher-Festschrift*, 1930, p. 235.

¹⁷ Krahmer, *Nachrichten Göttingen Gesellschaft* (Phil.-Hist. Kl.), 1927, pp. 53-91; Bieber, *Sculpture of the Hellenistic Age*, pp. 146 ff.

¹⁸ Since I wrote the above I have seen a similar bronze group, Fitzwilliam Museum, Cambridge, bequeathed in 1953 by Sir Robert Hyde Greg whose collection was formed in Egypt. It is small and gives the impression of hasty hand modelling. The juncture between figures is made at the raised person's right ankle, not his hip, and the figures, rather widely separated, are side by side so that the group is unifacial. This example proves that the type was perpetuated into the period of

Finally, let me emphasize that there is no evidence that the pieces I have been discussing form a series, and there is even the positive evidence of scale that the group of Plate 56, a, b did not belong in a series with the others.¹⁹ Taken together, all these objects provide evidence that such a series did exist, and that it was produced by partial moulds taken from each group to form the next. The process of commercial duplication was somewhat more complicated than had been supposed, and its application to this particular sculptural type had not been recognized. The isolation of another commercially reproduced type is valuable for the light it throws on the personalities and methods of ancient sculptors.

DOROTHY KENT HILL

THE WALTERS ART GALLERY
BALTIMORE

the one-view groups, even though it may have been invented earlier, and it therefore corroborates in a general way the dating I have suggested.

¹⁹ The best series of figures so far available is the Aphrodite type; there are five of almost the same size, but no mould; see my review, *A.J.A.*, L, 1946, p. 504.

LIGHT-WELLS IN CLASSICAL GREEK HOUSES?

IN a recent study published in the *B.C.H.*, LXXX, 1956, pp. 483-506 Mrs. Vanna Svoronos-Hadjimichalis has reconsidered the problem of the evacuation of smoke from the kitchen of the Classical Greek house, represented in actual remains almost exclusively by the houses excavated at Olynthos between 1928 and 1938.

Particularly valuable is her first-hand acquaintance with the modern Greek house and, although she is unable to adduce any close analogies to the "pillar-partition" so characteristic of the Olynthian kitchen, she does illustrate smoke-vents in the sloping tile roofs of houses at Hagia Anna in Euboea and at Hellinopyrgos in Thessaly (*op. cit.* fig. 5a, b) which bear a remarkable resemblance to the form I proposed as a reasonable one on purely theoretical grounds in the original study of the question in *Olynthus*, VIII (pp. 194 f. and p. 99 fig. 4), and to which I later noted analogies in Swiss houses of recent times in my article in *Hesperia*, XXIII, 1954, pp. 328-346, especially pp. 345 f.¹

It is encouraging to me that she accepts my general position in regard to the interpretation of the kitchens and of the pillar-partitions as set forth in the *Hesperia* article, and even in such details as the draft-holes in the lower part of the flue.²

The principal new point Mrs. S-H. attempts to demonstrate in her article is the following: that the large flue (II) over the fireplace of the Olynthian kitchen-complex had, instead of a rather small covered smoke-vent at the top—as I had pictured it and to which, as I have said, she has found modern-Greek analogies—, a clerestory covering the entire area of the flue and serving not merely to evacuate the smoke but to admit light both to the kitchen at the bottom of the flue and, more particularly, to the large adjacent room (I) separated, in the characteristic scheme, from the kitchen flue (II) by a row of four pillars, the "pillar-partition." This would mean in effect that the principle of the light-well, so common in Minoan Crete, was also in use in Classical Greece, a conclusion which merits careful examination.

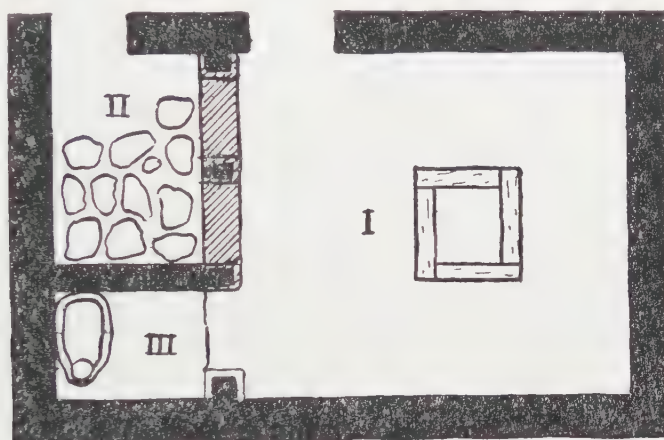
As a corollary of this Mrs. S-H. suggests in her study (p. 499, note 1) that similar clerestories—whose existence can be traced in the remains only by the characteristic row of stone bases fronting the hypothetical "light-well"—may have been used to light rooms other than the kitchen-complex, and that this explains the dis-

¹ Mrs. S-H. is not correct in saying that my inspiration for the form of the smoke-vent came from these Swiss houses (p. 490 note 2) since my discovery of the Swiss analogy came some fifteen years after the original publication. She also takes exception to my citing analogous hearth forms from 17th century (not 7th century, as Mrs. S-H.) Norway rather than from ancient Greece (p. 497 note 2); but the latter had already been cited in *Olynthus*, VIII, pp. 187 f.

² *B.C.H.*, LXXX, 1956, p. 492; *Olynthus*, VIII, p. 195.

agreement between Prof. Mylonas and myself on the identification of certain of the rooms of the pillar-partition.³

The structural resemblance of the Olynthian "pillar-partition" and the rectangular space beyond it (II) to the typical Minoan light-well is indeed rather striking and was noted, as Mrs. S-H. mentions (p. 499), in my article in *Hesperia* (pp. 333 f.).⁴ One significant difference, however, is the regular presence in the Minoan form of a drain, and the complete absence of one in the Olynthian. This must mean that the former must have been open to the sky, the latter protected in some way; and that is of course why Mrs. S-H. introduces the idea of a clerestory arrangement above II.⁵



Mrs. S-H. does not specifically mention the obvious fact that the covering of the "light-well" would limit the amount of light it could transmit and therefore would be less efficient than the Minoan light-wells if they were really completely open to the sky. To measure as closely as possible the amount of light reaching the large room (I), or "Common Room" as Mrs. S-H. calls it, under different conditions I constructed a scale-model (at 1:25) in plywood of the whole kitchen-complex and the

³ See the *Hesperia* article cited above, *passim*.

⁴ In the final version of my *Hesperia* article I suppressed the following note. "There is a superficial resemblance in plan to the familiar 'light-wells' of the Minoan palaces, but there are so many objections to such an interpretation that it would be a waste of space to discuss the idea (evidently I was wrong!); to mention one of the less obvious: if light-wells, why partially close the space between the pillars with an adobe wall on the ground floor, as clearly in the Villa of Good Fortune. Light may however have been a secondary consideration. Some Swiss kitchens received very little natural illumination except by way of the opening in the roof for the smoke, cf. Brockmann-Jerosch, *La terre helvétique* (French edition, 1931), p. 85."

⁵ Mrs. S-H. suggests indeed that the projections on the top of some of the houses ("roof-attics" as Evans calls them, *P. of M.*, II, p. 370) of the Knossos "Town Mosaic" are covered light-wells, but this is very uncertain; it is possible that, as she says, they formed the enclosure for stairways leading to the flat roof.

room and roofing above it.⁶ A photographic flood-light was moved close enough to the model to give an effective illumination approximately equal to that of the sun on a clear day, and readings were taken with a sensitive light-meter through a suitable aperture in a wall of **I** not facing **II**.

With a movable piece of plywood set in a position in the model corresponding to a section of roofing in the original house raised about 65 cm. above the general roof level⁷ and covering the opening over **II** results not unfavorable to the hypothesis of Mrs. S-H. were obtained. With the "sun" in a mid-morning position—the most favorable position for it to shine obliquely into the "light-well" through the openings of the clerestory—the illumination in **I** with the roof of the clerestory removed was only about 50% greater than with it in place; with the sun in a midday position the lighting with the roof removed was about eight times as great as with it in place, but this only means that under such conditions the sun would shine directly down the shaft, flooding both **I** and **II** with light, and incidentally with unbearable heat in warm weather. In the midday position, and with the roof in place, **II** was still fully as strongly illuminated, if not rather more so, than in the mid-morning position. In any case we can only conclude that with a bright sun during most of the day room **II** would have been adequately lighted. We must not expect modern standards of illumination, and in dull weather or late in the day we can only suppose that the light of the fire or of lamps served the purpose, however inadequate *we* might consider it.

Mrs. S-H. seeks to bolster her case for the light-well by quoting (p. 502) a passage in Herodotos,⁸ often cited in this connection, which speaks of the sunlight coming through the "kapnodoke" and shining on the floor of a room in a Macedonian palace; it is perhaps significant that it is called a "smoke-" not a "light-" receiver. In any event, even if this passage can be literally transferred to a Greek house, it only proves that the sun *could* shine through the flue-opening, not that the flue-opening was *intended* also as a source of light. And a shaft of sunlight *could* find its way through a flue-opening of the kind suggested in *Olynthus*, VIII and the article in *Hesperia* as well as through the larger opening advocated by Mrs. S-H.;^{8a} if we

⁶ Only in one-third of the Olynthian kitchen-complexes is the full length of the flue (**II**) open to the large room, since in the others one end of **II** is occupied by a bathroom (**III**). On this point Mrs. S-H.' drawings in her fig. 12 are quite misleading for **II** has been given the proportions of **II** and **III** together and four pillars instead of three.

⁷ The unscaled sketch in fig. 12 of the article by Mrs. S-H. approximately agrees with this hypothetical estimate.

⁸ Herodotos, VIII, 137.

^{8a} That a relatively small, well-protected opening was preferred, even for admitting light, in the classical period is suggested by recent discoveries at Pompeii. Spinazzola (*Pompei alla luce degli scavi nuovi di via dell'Abbondanza, 1910-1923* [1953], figs. 52, 57) illustrates two such openings observed in houses II ii 4 and IX xii 6; the first he describes as "una apertura rettangola, protetta da un gran cappuccio fatto di due tegoli combacianti di terracotta, che, impendendo il passaggio delle

wished to make a point of it we could claim that the smaller patch of sunlight actually fits the circumstances of the story better.

As another argument for the larger opening Mrs. S-H. advances the claim that with an opening as small as I have advocated the draft over such a large flue would be nearly non-existent (p. 497). But since the roof at the top of the flue was always a sloping one a hole of reasonable size near or *at the highest point* (as I have always restored it) should draw off the smoke efficiently; actual experiment with the scale-model confirms this supposition. Moreover if this opening is hooded (as in my restoration) the smoke will not be blown back into the flue and the room beyond except when the wind is coming from the direction in which the flue-vent faces; on the other hand with a clerestory open all around, as suggested by Mrs. S-H., a considerable breeze from any direction will cause the smoke to baffle back into the flue. A little experiment with the blast of air from a hair-dryer directed against the model shows that this is true.

Another objection to the large clerestory opening—and my principal reason for having from the beginning suggested as small an opening as possible within the limits of reasonable efficiency—is that it would admit a great deal of cold air in the winter season (and this can be quite severe in the Chalcidic peninsula), while a driving rain from any direction could hardly be prevented from sending quantities of water on to the hearth immediately below.⁹ A small hooded vent, such as I would advocate, would be much less vulnerable to rain and could even be closed by a hinged cover operated from below.¹⁰

Mrs. S-H. further declares that the use of the pillar-partition instead of a solid wall to separate **I** from **II** was to make **I** and **II** interdependent and to provide air and light for **I**. I would agree as to the interdependence, but would suggest that the principal reason was rather to allow the heat to radiate from **II** into **I** in order to keep **II** cooler in hot weather, and **I** warmer in cold weather.

As for the lighting of **I**, which seems to be of such concern to Mrs. S-H., it is I believe clear that windows were in regular use on the ground floor of the Olynthian houses.¹¹ Her statement (p. 499) that the kitchens could not have had other openings than the doors (which moreover opened usually on porticoes and not directly on the court), since they were located in the interior of *insulae* far from the exterior walls, conveys a very false impression. At least one wall of the kitchen-complex was always

acque, permetteva che un po' di luce scendesse dall'alto sull'ingresso, immediatamente sottoposto." The restoration shown in his fig. 57 closely resembles my original theoretical restoration referred to above.

⁹ This would certainly be true on the restoration suggested by Mrs. S-H. in her fig. 12; the amount of rain-water penetrating the flue could be somewhat reduced (and the light too) by extending the area of the roof covering the "light-well" beyond the limits of the shaft.

¹⁰ Cf. my *Hesperia* article, pp. 345 f.

¹¹ *Hesperia*, XXII, 1953, pp. 199-203.

an exterior wall or adjacent to a court. It is true that at times this exterior wall was next to an alley some two meters wide running down the middle of an "*insula*," but it is my belief, based on a study of the "alleys" between the individual houses in Row A on the North Hill of Olynthos as well as of those in the regular ten-house blocks, that although they were used for drainage their primary *raison d'être* was to serve as light areas so that the main block of rooms of both storeys in the north half of the houses could be provided with windows. As I have pointed out before, these "alleys" were not actually used for passage since they were blocked by walls at their ends;¹² windows could therefore open even more freely on them than on the streets.

The other rooms on the ground floor also had to depend on windows and doors for their light and there would seem to be no convincing reason for equipping the kitchen-complex with a special system of lighting. Tasks requiring much light could be performed in the porticoes or court when the weather was good; bad weather was a serious handicap to daily living before the invention of window-glass and electric lights!

Lastly, let us consider Mrs. S-H.' suggestion (p. 499, note 1) that the hypothetical light-well was occasionally used in combination with rooms other than **I**, in other words that it was not itself always a kitchen (**II**). Against this is the consideration, already pointed out in detail in the *Hesperia* article (p. 338), that the room-complexes which have been separately classified by Mylonas (and it is these she has in mind) are really indistinguishable from the kitchen-complexes.

In any case one might suppose that the Olynthian builders would only have troubled to provide a light-well for rooms of some importance. Yet this is far from the truth; for example, the one outstanding room recognizable in the Olynthian house—the andron—is never so equipped. Nevertheless let us examine the six houses where we might most reasonably expect to find evidence of this room group's being used, according to Mrs. S-H.' hypothesis, for some other purpose, for Prof. Mylonas has already assailed my position on the ground that such comparatively small houses as the Olynthian would not contain two kitchen complexes.¹³ These are the six houses in which *two* of the **I-II** (-**III**) complexes occur: A iv 9, A vi 7, B vii 2, F -ii 9, A viii 2, and the Villa of the Bronzes.

In A iv 9, *jk* certainly constitutes a kitchen-complex since a hearth was found in *k*; but *c*, the large room (**I**) of the other group, was a mere kind of entrance-hall with perhaps a stairway to the upper floor. In A vi 7, it is the room *next* to the main room (**I**) of the secondary complex which has a cement floor and red-stuccoed walls; *c* (**I**) itself is plain and unadorned. Again in B vii 2 the large room, *c* (**I**), is plain, though the other rooms are the same in this house; but *a* (**I**) of F -ii 9, the "House

¹² *Olynthus*, VIII, p. 37.

¹³ My reply is given in *Hesperia*, XXIII, 1954, pp. 338-340.

of Many Colors," is plain while all the better rooms were carefully decorated (*Hesperia*, XXIII, 1954, p. 338). In A viii 2, *d* (I) is one of the plainest rooms in the house. Finally, *b* (I) of the Villa of the Bronzes does indeed have a simple mosaic floor and plastered walls yet the evidence for fire-places in *a* (II) seems clear (*ibid.* pp. 340 f.).

One might also wonder why, if the pillar-partition room was really used as a light-well, it was not sometimes endowed with a pillar-partition on both sides so that it might light rooms on each side of it—as was occasionally done in Minoan Crete, for example in the Villa at Hagia Triada, and in the north residential quarter at Phaistos.¹⁴

The hypothesis of Mrs. S-H. that the Olynthian *kapnodoke* served a double purpose—to vent smoke and to admit light—is therefore, I believe, not warranted by the evidence at our disposal. The vent probably varied somewhat in size and form but it may be doubted whether it ever approached the point where it could be called a light-well, or that it was sometimes used as a light-well purely and simply.

J. WALTER GRAHAM

UNIVERSITY OF TORONTO
ROYAL ONTARIO MUSEUM

¹⁴ Rooms 3 and 4 and Room 50 respectively.

ΘΕΡΜΑΥΣΤΙΣ, ETC.

D. A. Amyx in his detailed discussion of the word *θήρμανστις*¹ occurring twice in the Attic Stelai notes the only other instance where this word is recorded in exactly the same form (surprisingly omitted in Liddell-Scott-Jones). It is found in the inventory inscription *I.G.*, II², *Add.*, 1424a (not 1428a), line 287: *θερμαύστεις* II, *ἡ ἐτ[έ]ρα ἄλυσιν ἔχει*.² Further recording the various forms appearing in a group of interrelated words, he mentions the inventory inscription *I.G.*, II², 1425, line 379, where the whole line has: *θερμάστι[α ΔΠ]II? ἔτερα . . . νια* III.³ However it has escaped his notice that both these passages refer to one and the same object and that Kirchner already twice, in the commentary of no. 1424a and in the *Add.* to no. 1425, restored the latter passage as *θερμάστ[εις] II, ἡ ἐτέρα [ἄλυσιν] ν ἔχει*.⁴

The text of no. 1425, line 379, is based on the reading of Eustratiades, *Ἀρχ. Ἐφημ.*, 1874, pp. 462-469, no. 438, pl. 69 B, made from a gypsum cast of the inscription. He had read: *θερμάστι[α] Δ[Π]II, ἔτερα . . . νια* III. Combining Eustratiades' reading and mine from a squeeze in the collection of the Institute for Advanced Study I transcribe: *θερμάστ[εις] II, ἡ ἐτέρα ἄλυσ[ιν] ν ἔχει*. As we could surmise, the form *θήρμανστις* in the same period (second quarter of the fourth century B.C.)⁵ alternated and was equivalent in meaning with the form *θήρμαστις*.⁶

Amyx mentions also the similar word *θήρμαστρίς* or *θερμαστρίς* and refers to *I.G.*, II², 1414, line 42 and to *Inscr. Délos*, 1416 (not 1415), A, I, line 15, and 1417, B, I, line 12. In the first of these passages, an inventory inscription, the whole line reads: — — *θερμαστρίς· ἡτ[έρα] — —*. It should be noted that Preuner using the evidence from *I.G.*, II², 1424a suggested⁷ restoring the line as follows: *θήρμαστρίς, ἡτ[έρα] ἄλυσιν ἔχει*. That should mean that *θήρμανστις* = *θήρμαστις* = *θήρμαστρίς*. Although that can be possible, an examination of the squeeze reveals that the reading is: — — *θήρμαστρίς* ° Π||| ° — —.⁸

¹ Above, pp. 219-221. See also W. K. Pritchett, *Hesperia*, XXII, 1953, p. 292.

² Dr. S. J. Charitonides informs me that the stones of *I.G.*, II², 1428 and *Add.*, 1424a, have been recently transported into the Epigraphical Museum.

³ The form *θερμάστρι[α? pl.]* in p. 219, note 13, is a *lapsus calami* or a misprint; cf. p. 220, note 25. The restoration made by Eustratiades was doubted by Kirchner followed by Amyx p. 219, note 13; p. 220, notes 21 and 25.

⁴ By some misprint in the commentary of no. 1425 *Add.* the brackets around *ἔχει* have been omitted.

⁵ For more exact dates see A. M. Woodward *Ἀρχ. Ἐφ.*, 1937 A, pp. 165-166.

⁶ Cf. p. 221, note 27.

⁷ See *I.G.*, *Add.* to no. 1414.

⁸ I note some other changes in the same text:

Line 1 —Ο·Ε·ΑΙ—; 3 Π†††††; 5 at the end after the number is an erasure; 9 — — οἱ; 12

For θερμάστριον Amyx refers to *Inscr. Délos*, 1417, A, II, line 58. This is an inventory of objects kept ἐν τῷ ἄλλῳ οἴκῳ. The item is described as θερμάστριον σιδηροῦν παλαιόν. It may be noted that the catalogue of these objects and of the ones preceding (ἐν τῷ Κ]υνθίῳ ἐν τῷ οἴκῳ, ἐν ᾧ ὁ θεός) and a great part of the following (ἐν τῷ τῆς Ἀρτέμιδος ναῷ) are recorded also in *Inscr. Délos*, 1403, B, b, II. There are registered exactly the same objects with variation only in the description, except that instead of the θερμάστριον, is a θυμιατ[ήρι]ον παλαιόν (lines 35-36). Which one of these entries is the correct may be indicated from a third similar inventory, *Inscr. Délos*, 1412, a, line 47, where in the corresponding place we find: [— — θυμιατήριον παλαιόν. Κ[αὶ τὰδε κτλ. Unfortunately a bracket is missing because of a misprint and we do not know exactly what part of the two words is actually preserved on the stone.

Amyx has noted⁹ that the manuscripts of Aeneas Tacticus XVIII, 6 give both θερμάστριον (H) and θερμάστιον (M). Actually the only authoritative manuscript of Aeneas, *codex M(ediceus)*, and (judging from the silence of the editors) its later derivatives (A, B, C, and D) give the reading θερμάστιον, while θερμάστριον was an emendation of Hercher (1870) introduced in the text by him in his editions. Two subsequent editors (Hug, 1874 and Schoene, 1911) relegated this emendation to the *apparatus criticus*, but the Loeb editors (1923), Hunter and Handford in their elaborate edition (1927), as well as the compiler of the *Lexicon Aeneium*, D. Barends (1955), did not mention it. For the meaning of the word reference may be given to the commentary of the edition of Hunter and Handford and especially to the Barends *Appendix* where a drawing of a θερμάστιον, as he imagines it, is given.¹⁰

The form θέρμαστις in the Brauronian inventories has been established from the time of Hicks. A more complete text of the pertinent passages based on an examination of the squeezes follows:

I.G., II², 1514, lines 28-29

χιτωνίσκιον καρτὸν παιδεῖον ἀνε[π] | ἱγραφον, παρυφὴν ἔχει θέρμαστιν.

I.G., II², 1515, lines 21-22

[χι]τω[νίσκι]ον [κ]α[ρ]τ[ὸ]ν πα[ι]δεῖον | ἀνεπί | γγραφον, πα[ρ]υφὴν ἔχει θέ[ρ]μα[σ]τιν.

I.G., II², 1516, lines 7-8

χιθωνίσκι[ον καρτὸν] | παιδεῖον ἀνεπίγραφον, παρυφὴν ἔχει θέρμα[στιν].

For a fuller treatment of the subject two more passages may be mentioned,¹¹ one

στρ]ογγυλόπος; 13 καὶ βάθ[ρον]; 14 end ΔΔΓ; 21 (cf. *Add.*) ἀργυρὸ ἡμ[ισ]ν —; 24 (cf. *Add.*) ἐπίσημος [Νίκη] ἀ[σπίδος] κτλ.; 25 ἀργυρᾶν [ἔχουσ]α[ν] —; 26 στ]ύππι[νος] .]ι —; 27 ἀ[νέθηκ]εν; 46 Ἀργολικαί; 48 — οδοι παρὰ; 50 κ]αὶ αὐτῷ; 51 — — δὲ ἱερῷ.

⁹ Above, pp. 219, note 13; 220, notes 20 and 21.

¹⁰ P. 167 and Diagram 3, IV.

¹¹ Cf. Liddell-Scott-Jones *Add.*

from the *Pap. Cairo Zenon* 59782(a) 50, 61 (III cent. B.C.), where the word *θερμαστρίς* is used with a meaning probably related to the encaustic work of a painter, and from the gloss of Hesychius *σχίνδαν θερμάστριον*.

In summary I give a list of the evidence with some additions, classified according to the forms of all the related words, chronologically under each. The meanings where they can be determined with any certainty are added in parentheses at the end of each reference, as follows: I = 'tongs, pincers, or pliers,' II = 'kind of violent dance,' III = 'kettle, cauldron,' IV = 'oven, furnace,' V = 'kind of ornament of garments,' VI = 'bathing-house.' The accentuation is in many cases conventional.

θερμάστιον: Aeneas Tact. XVIII, 6 (I)

θερμάστριον: *Inscr. Délos* 1417, A, II 58¹²
Hesych. *s.v.* *σχίνδαν*

θερμαστis: *I.G.*, II², 1514 29, 1515 21, 1516 8
(V)¹³

θερμαστis: *I.G.*, II², 1414 42¹⁴

[Arist.] *Mech.* 854a, 25¹⁵ (I)

Pap. Cairo Zenon 59782(a) 50, 61 (I)

Inscr. Délos 1416,¹⁶ A, I 15, 1417, B, I 12¹⁷

Athen. *Mechan.* 34, 4¹⁸

LXX, 3 Kings VII 26 (40), 31 (45) (III)

Poll. X 66 (III)

Theodoret., *Quaest. in III Regn.* 24, LXXX,
p. 690 B Migne (III).

Hesych. *s.v.* (I)

θερμανστis: Stele I 97, 98 (III)

I.G., II², *Add.*, 1424a 287 (III)

θερμανστis: Eupolis fr. 228, 3 (Kock, I, p. 320;
Edmonds, I, p. 392 with meaning I) *apud*
Poll. X 192 (III)

Athen. XIV 629 d, 630 a¹⁹ (II)

Poll. IV 102, 105 (II) X 66, (III) 192
(III?)

Hesych. *s.v.* *θερμαστis*²⁰ (II)

Phot. *s.v.* (II)

Eust. Od. 1601, 27²¹ (II)

¹² This, formerly published by P. Roussel, *Délos, colonie athénienne*, Paris 1916, p. 225, note 14, and by A. Plassart, *Délos*, XI, Paris 1922, p. 122, is missing in Liddell-Scott-Jones. (Cf. above, p. 219, notes 12-13. The reference in p. 220, note 25, should be corrected to read *Inscr. Délos*, 1417, B, I, line 12).

¹³ See above, p. 325. For the accent see Ch. Charitonides, *Πλάτων*, IV, 1953, p. 98.

¹⁴ See above, p. 324.

¹⁵ The mss. have *θερμαστρίδος* except P (Vaticanus 1339) and W^a (Urbinas 44) which have the wrong reading *κερμαστρίδος*. The ms. Parisinus A, in which scholia are intermixed with the text, has in the place of *θερμαστρίς* the word *περόνη*.

¹⁶ Not 1415 (p. 220, note 15).

¹⁷ Formerly published by P. Roussel, *Les cultes égyptiens à Délos*, Nancy 1916, p. 220. (Cf. p. 220, notes 15 and 25).

¹⁸ In the new edition of Athenaeus by R. Schneider, *Abhandlungen d. k. Ges. d. Wiss. zu Göttingen*, Phil.-hist. Kl., N.F., Vol. 12, 5 (1912), an old drawing from the manuscript (Pl. VII 2) gives in the place of *θερμαστρίς* the name *τράπηξ*.

¹⁹ In the first passage the mss. ACE give *θερμανστis*, in the second the ms. A has *θανμαστis* corrected by Casaubon (cf. p. 220, note 17).; the mss. of the epitome (Peppink, II 2, p. 133) have *θερμανστρίς*.

²⁰ Lemma added by Schmidt (*vox e fuga revocata*).

²¹ According to Eustathius the ball-game called *οὐρανία* was a kind of dance akin to *θερμανστρίς*. Naber thought that the source of Eustathius was a rhetorical lexicon (Aelius Dionysius or Pausanias); Diels thinks that perhaps the origin of the information is from Suetonius *περὶ παιδιῶν*.

- θερμαύστρα: *I.G.*, XI 2, 144, B 19²²
 Callim. *Hymn. in Del.* 144²³ (IV)
- θερμάστρα: Callim. *Hymn. in Del.* 144²³ (IV)
 Euphorio fr. 51, 8 Powell²⁴ (IV)
 Hesych. *s.v.* θερμάστραι²⁵ (IV)
 Constant. Porphy. *de cerim.* 272, 11
 Bonne²⁶ (IV)
- θερμαστρήθεν: Hesych. *s.v.* 27 (IV)
- θερμανστρίζω: Critias fr. 36 Diels (⁶II, p. 392)
 ap. Eust. *loc. cit.* (II)
 [Lucian.] *de salt.* 34 (II)
 Eust. *Od.* 1601, 29 (II)
- θερμαντήρ: Poll. VI 89, X 66 (III)
 Theodoret. *loc. cit.* (III)
- χαλκίον θερμαντήριον: ²⁸ Stele I 96 (III)
I.G., IV, 39 14-15 (III)
I.G., II², 1416 2, 1641 37, 1673 38²⁹ (III)
 Galen. XIII 663 Kühn
 Poll. X 66 (III)
 Herod. *Philet.* p. 450 Pierson³⁰ (III)
- θερμάριον: *Euchologium* pp. 624, 832, 837 (III)
- thermarium: *Aelfric Glossarium Latino-Saxonicum s.v.* Balnearium (VI)
- θήρμασσα: Herodian. π. καθολ. προσφδίας I, 267
 Lentz (IV)
 Arcad. p. 97, 4 (IV)
- θερμαψίς: Corp. Gloss. Lat. III, pp. 325, 504,
 522 (IV)

The above notes are presented not with the idea of offering final solutions to the vexing problems of forms, accents and meanings, but in the hope that this collection of evidence will aid the achievement of this goal.³¹

GEORGE A. STAMIREs

INSTITUTE FOR ADVANCED STUDY
 PRINCETON

²² The exact date is 303 B.C.; J. H. Kent, *Hesperia*, XVII, 1948, p. 265.

²³ All the mss. have θερμαύστραι except S (Matritensis Gr. 4562 of the year 1464), Q (Multinensis-Estensis 164 of the end of the XV cent.) and its derivative q (Ambrosianus 11) which have θερμαίστραι (θερμανστραί, I. Laskaris), corrected by Meineke (1861) and before him by Blomfield (1815) from Hesychius. Cf. the scholia *ad. loc.*, II, p. 70 Pfeiffer.

²⁴ Preserved in a papyrus of the V cent. A.D., *Berlin. Klass. Texte*, V, I, 57 ff.

²⁵ θέρμαστραι the ms. (Marcianus), corrected by Schmidt. For the accents in this ms. see K. Latte in his edition of Hesychius I, p. XXIX.

²⁶ Now written Θερμάστρα as place name (in the palace?); see the ed. by A. Vogt, Paris 1939, II 1, p. 82.

²⁷ The ms. has θερμάστηθεν corrected by Kuster.

²⁸ Cf. above pp. 218-219.

²⁹ Amyx p. 218, note 5, notes that Kirchner's reading in *I.G.*, II², 1467 23 [θερμαντήρ]ιον ἐλεφάντινον is hardly credible. This is an understatement. The restoration which was made by Hondius, *Novae inscriptiones Atticae*, Leyden 1925, p. 88, on the basis of *I.G.*, II², 1416, line 2, as the only one fitting the space, and which was accepted by Kirchner is impossible because of the meaning of the word. Also impossible is the restoration [γοργονεῖδ]ιον proposed by Crönert. The word is not attested. For such diminutives cf. Ch. Charitonides, *Πλάτων*, I, 1949, pp. 151-155.

³⁰ The ms. has θερμαντήριον corrected by Pierson.

³¹ Thanks to Prof. K. Latte I refer to his "De saltationibus Graecorum," *Religionsgesch. Vers. u. Vorarb.*, XIII 3, Giessen 1913 for the meaning II = figure of dance or dance (esp. pp. 2, 6, 21-22), for Tryphon as common source of Athenaeus, Pollux, Diogenianus (Hesychius), for [Lucianus] and Eustathius. See also in general H. Frisk, *Gr. Etym. Wörterbuch*, Lief. 7, Heidelberg, 1958, p. 665 *s.v.* θερμός.

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- Πραξίνικ[ος], in a casualty list, *ante. med. saec.* V *a.*, Plate 45, a.
- Ῥοῦφος: ὁ κρά(τιστος) Ἐρέν(νιος) Ῥοῦφος (Παν[διονίδο]ς), Areopagite(?) initiated in the mysteries *a.* 164/5 *p.*, 43, 44 26 = Ἀρχ. Ἐφ., 1950/51, *p.* 31 = *I.G.*, II², 2339 24.
- Σ[— —], steward in an unknown town *ca.* *a.* 200 *a.*, 75 18, 76, 77.
- Σ[— —]ενος: Αἴλλ(ιος) Σ[— —]ενος (Παν[διονίδο]ς), Areopagite initiated in the mysteries *a.* 164/5 *p.*, 44 19 = Ἀρχ. Ἐφ., 1950/51, *p.* 31, where this line has been inserted in *I.G.*, II², 2339.
- Στρατόλας: Ἰούλ(ιος) Στρατόλας (Παν[διονίδο]ς), Areopagite initiated in the mysteries *a.* 164/5 *p.*, 44 21 = Ἀρχ. Ἐφ., 1950/51, *p.* 31 = *I.G.*, II², 2339 19.
- Σύντροφος (Ἐρεχθείδος), *ca.* *a.* 131 *p.*, father of Ἐπίγονος and Ἐλεύθερος, 38, 44 8, 10 = *I.G.*, II², 2339 8, 10.
- Σωσικράτης, steward in an unknown town *ca.* *a.* 200 *a.*, 75 7, 16 76, 78.
- Τειμόδικος, in a text from Karpathos, 124 (4 4).
- Τρ[— —], non-citizen in Athens, initiated in the mysteries *a.* 164/5 *p.*, 45 88 = Ἀρχ. Ἐφ., 1950/51, *p.* 31 = *I.G.*, II², 1999 58.
- Φίλιππος: [Ἰο]ύλ(ιος) Φίλιππος (Παν[διονίδο]ς), Areopagite initiated in the mysteries *a.* 164/5 *p.*, 44 23 = Ἀρχ. Ἐφ., 1950-51, *p.* 31 = *I.G.*, II², 2339 21.
- Φιλόδημος, on a lamp, *med. saec.* IV *a.*, 159, Plate 46, b.
- Φιλοφάνης, steward in an unknown town *ca.* *a.* 200 *a.*, 75 6, 12, 15, 76, 78.
- Φίρμος, *ca.* *a.* 131 *p.*, father of [.....]ος and [.....]σιος, 45 34-35 = *I.G.*, II², 1999 6-7.
- Φλάβιος: [Τ(ίτος)] Φλ(άβιος) [— —], boy initiated ἀφ' ἐστίας *a.* 164/5 *p.*, 41, 44 5, 45 correcting *I.G.*, II², 2339 5.

- Φροντεῖνος: [— — — Φρο]ντεῖν(ος) ([...]εἶδος), initiated in the mysteries *a.* 164/5 *p.* or [Φρο]ντεῖν(ος) ([...]εἶδος), *ca.* *a.* 131 *p.*, father of [— — —], 45 48 = *I.G.*, II², 1999 18.
- Χαίριας, love-name on a kylix, 159 and Plate 46, *a.*
- [.]η[— — — —], non-citizen in Athens, initiated in the mysteries *a.* 164/5 *p.*, 45 53 = *I.G.*, II², 1999 23.
- .ρ(—) Θεόξενος (Ἐρεχθεῖδος), Areopagite initiated in the mysteries *a.* 164/5 *p.*, 44 11 = Ἀρχ. Ἐφ., 1950/51, *p.* 30 = *I.G.*, II², 2339 11.
- [...]σιος Φέρμου, initiated in the mysteries *a.* 164/5 *p.*, 45 35 = *I.G.*, II², 1999 7.
- [...]ιος: Καλλίας ὁ κ[αὶ...]ιος, non-citizen in Athens, initiated in the mysteries *a.* 164/5 *p.*, 45 64 = *I.G.*, II², 1999 34.
- [...]νης Ἀσκληπι[άδ]ου, initiated in the mysteries *a.* 164/5 *p.*, 45 33 = *I.G.*, II², 1999 5.
- [...]νος, *ca.* *a.* 131 *p.*, father of [...]νος, 45 39 = Ἀρχ. Ἐφ., 1950/51, *p.* 31 = *I.G.*, II², 1999 11.
- [...]νος), initiated in the mysteries *a.* 164/5 *p.*, 45 39 = Ἀρχ. Ἐφ., 1950/51, *p.* 31 = *I.G.*, II², 1999 11.
- [...]ος Φέρμου, initiated in the mysteries *a.* 164/5 *p.*, 45 34 = *I.G.*, II², 1999 6.
- [...]μος ὁ κ(αὶ) Ἀριστόβουλ(ος), initiated in the mysteries *a.* 164/5 *p.*, 45 38 = Ἀρχ. Ἐφ., 1950/51, *p.* 31 = *I.G.*, II², 1999 10.
- [...]ς, *ca.* *a.* 131 *p.*, father of [...]ς, 45 37 = *I.G.*, II², 1999 9.
- [...]ς), initiated in the mysteries *a.* 164/5 *p.*, 45 37 = *I.G.*, II², 1999 9.
- [...]λιανὸς ([...]εἶδος), Areopagite initiated in the mysteries *a.* 164/5 *p.*, 45 43 = *I.G.*, II², 1999 15.
- [...]ος ([...]εἶδος), Areopagite initiated in the mysteries *a.* 164/5 *p.*, 45 45, correcting *I.G.*, II², 1999 16.
- [— — — —]έσιος ([...]εἶδος), initiated in the mysteries *a.* 164/5 *p.*, 45 49 = *I.G.*, II², 1999 19.
- [— — — —]ηνος ([...]εἶδος), initiated in the mysteries *a.* 164/5 *p.*, 45 51 = *I.G.*, II², 1999 21.
- [— — — —]ίου ([...]εἶδος), initiated in the mysteries *a.* 164/5 *p.*, 45 50 = *I.G.*, II², 1999 20.
- [— —]νος, graffito on an oinochoe, 158, note 27.
- — — —ς: Ἀλ(ιος) [— — —]ς (Παν[διονίδο]ς), Areopagite initiated in the mysteries *a.* 164/5 *p.*, 44 18 = Ἀρχ. Ἐφ., 1950/51, *p.* 31 = *I.G.*, II², 2339 18.
- [— — — —]ν ([...]εἶδος), initiated in the mysteries *a.* 164/5 *p.*, 45 52 = *I.G.*, II², 1999 22.

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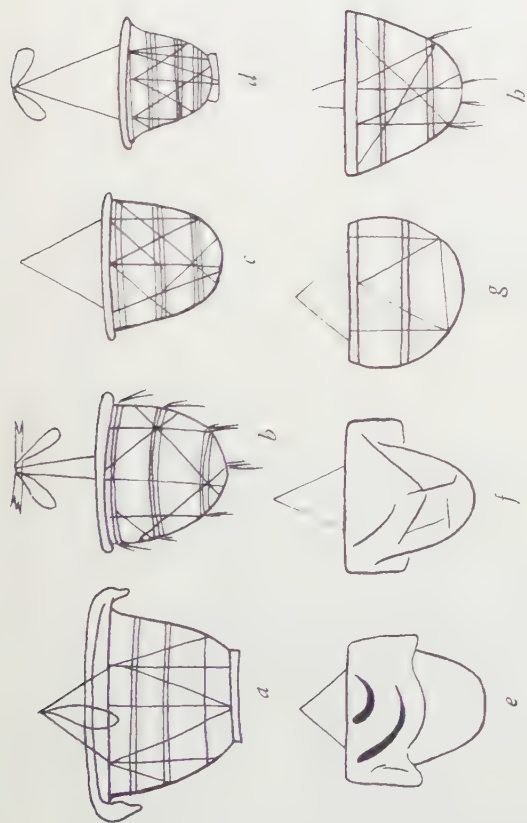
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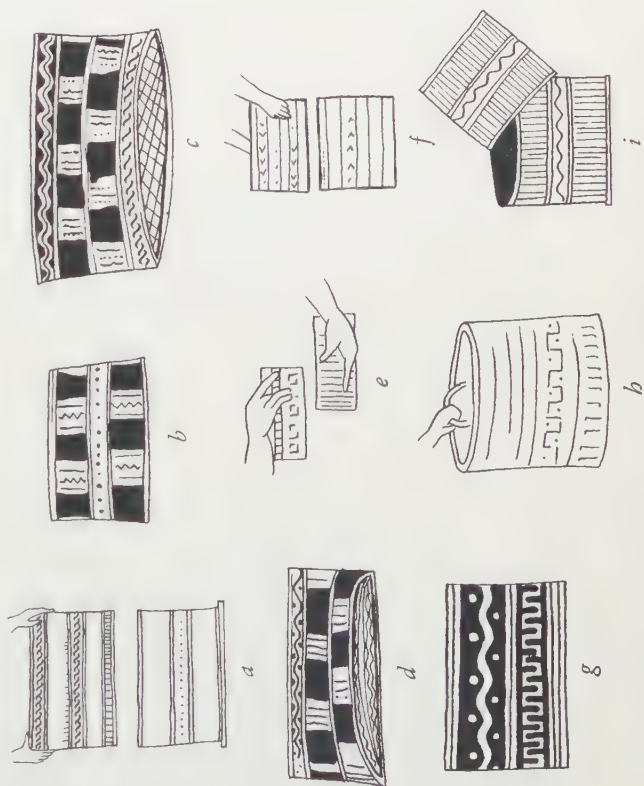
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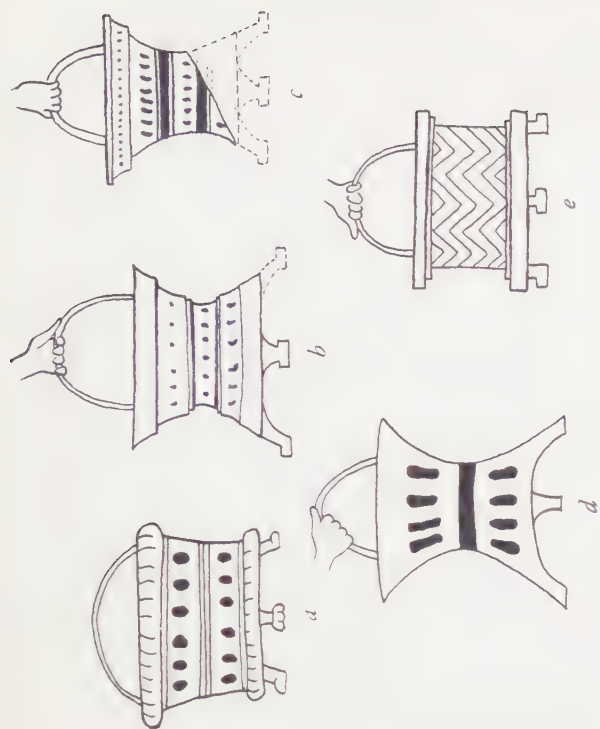
- p. 49: the texts in lines 25 and 30 should be transposed.
- p. 49, note 10: read *Lysistratam*
- p. 61, note 8, line 11: Sir John Beazley notes that this wrongly reports "leaving" for the text of *A.R.V.*, p. 444, no. 25, where "leading" is in fact correct. For his correction of this stupidity, I express my thanks.—P.A.C.
- p. 68, line 12: read *supra*, p. 60



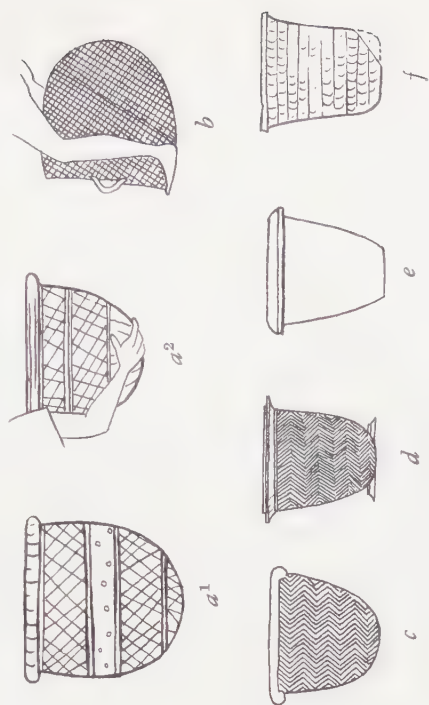
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K P A T E P E ζ ∅ Π /
 T I M E ∅ T T T
 P A Θ E A ∅ ↑ ↑ H

a. Louvre G 503.

Ο Ξ Ι Α Ε ζ ∅ Π Ι Ι Ι

K P A T E P E ζ ∅ Π / ∅ T I M E ∅ T T T
 P A Θ E A ∅ ↑ ↑ ∅ T I M E ∅ H
 Ο Ξ Ι Α Ε ζ ∅ Λ

b. Vienna Hofmuseum 558.

K P A T E P E ζ ∅ Π / ∅ Ι Ι Ι

Ο Ξ Ι Α Ε ζ ∅ Δ Δ Δ Δ ∅ T
 Θ - Υ Β Α Θ Α ∅ Ν ∅ Ι Ι Ι

c. Louvre G 496.

K P A T E P E ζ Π Ι ∅ T T T
 Π Ε Λ Λ Ι Ν Ι Α ζ Δ Ι Ι ∅ Ι Ι Ι
 Ο Ξ Ι Δ Ε Ε ζ Δ Δ ζ Ι Ι Ι
 Θ - Υ Β Α Θ Α ∅ Δ Δ Γ Ι

d. British Museum E 504.

Π Ε Λ Λ Ι Ν Ι Α ζ Δ Π Ι ∅ T
 Ο Ξ Ι Δ Ε Ε ζ Π Ι ∅ I
 K P A T E P E ζ ∅ Π Ι ∅ T T T Ι Ι Ι

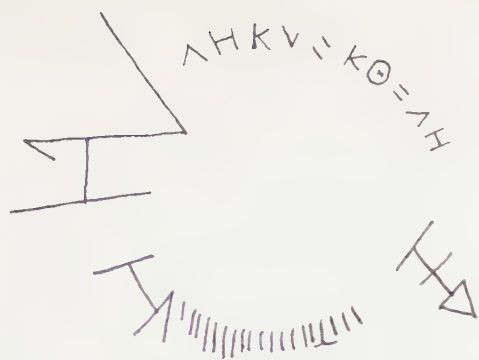
e. Philadelphia M 5682.

M T I I I I E K V Θ Δ Ε ζ Δ Δ

f. Syracuse Inv. 21834.

M Y I I I I E K V Θ Ι Δ Ε ζ Η Δ Ι

g. Basle Market, Hydria.



a. Munich J 731.



b. Munich J 693.



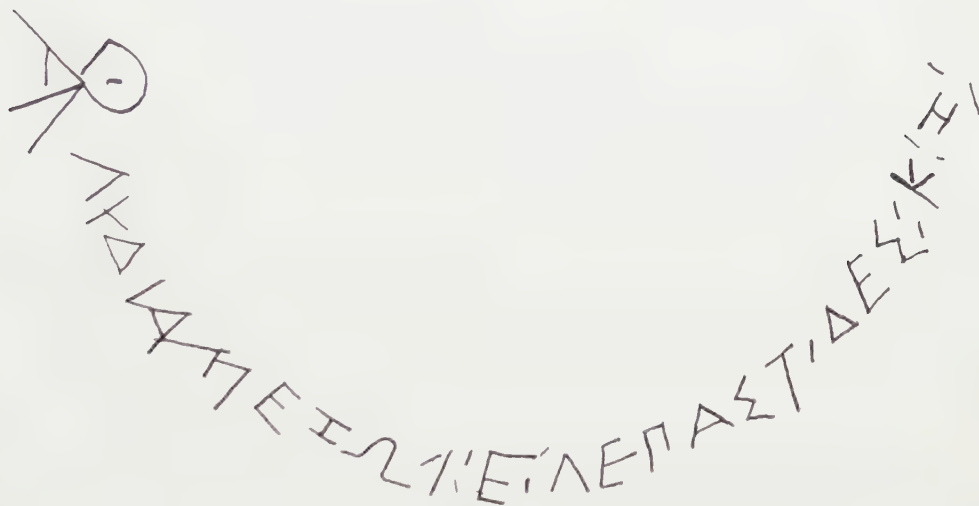
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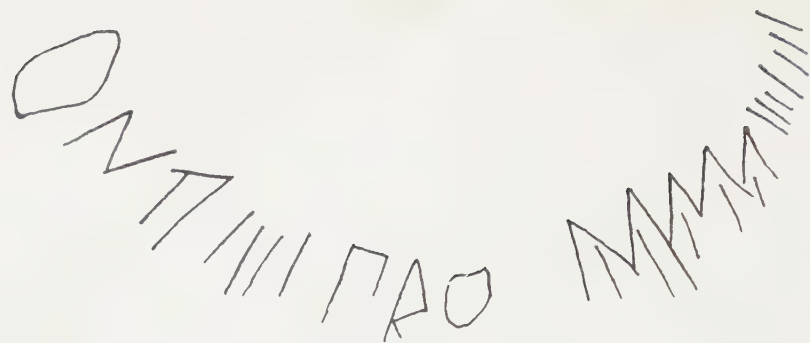


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h. Munich Inv. 2309.

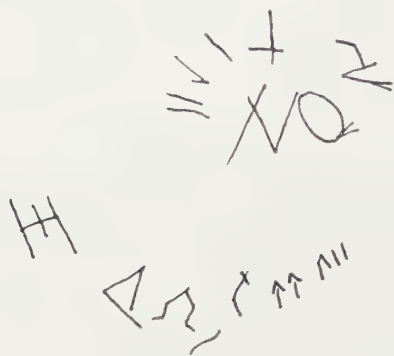
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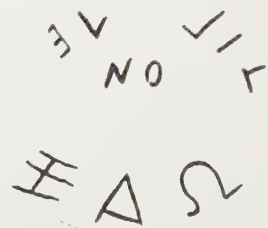
a. Utrecht, Hydria.



b. Copenhagen Inv. Chr. VIII 805.



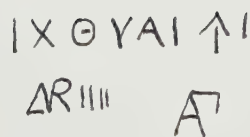
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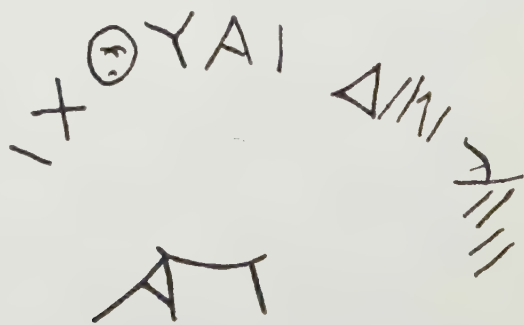
d. Lost amphora (?)
(once Canino Collection).



e. New York, Metropolitan Museum 06.1021.149.



f. Munich, Lekanis.



g. Lost lekanis (once Pourtalès Collection).



a. Bronze Statuette, "Athlete"
Walters Art Gallery



c. Bronze Statuette, "Herakles"
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b. Bronze Statuette of a., from rear

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a. and b. Bronze Group, Wrestlers. Cairo Museum
After *Bulletin de l'institut français d'archéologie orientale du Caire*



32045

c. Cast from Plaster Mould
After Edgar, *Greek Moulds*



d. Bronze Attachment, Silene
Walters Art Gallery

HESPERIA

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1958



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1958

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There is gathered together here all the available evidence for buildings, streets, and squares in the area of the Classical Agora and the Lechaion Road of Corinth from the end of antiquity up to the mid nineteenth century. Most of the walls no longer exist, but all records of post-classical construction found in the sixty years of digging in that area have been brought together and presented in both text and plan, with an attempt to identify and interpret each construction. In Part I material is divided chronologically, with chapters on the Early Christian Period, the Age of Barbarism, the Byzantine Recovery, the Full Byzantine Period and the Frankish Period; with each chapter the whole area is divided topographically after a brief historical introduction for each period. Part II treats the material typologically with chapters on Techniques of Construction, Ornament, and Plans and Types of Buildings. The chapter on ornament catalogues 191 pieces representative of the mass of fragments found in the area, most of them re-used so without context of significance, but interesting as an indication of general Corinthian style in ornament; they are largely from the early Christian centuries.

The picture of the market and commercial area of Corinth with some domestic quarters interspersed in the several successive periods adds considerably to our knowledge of secular construction and planning in Greece in those periods—especially the twelfth century.

Published April, 1957. xvi + 147 pages with 15 figures in the text, 36 plates, 7 plans. Quarto. Cloth. \$10.00.

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THE ATHENIAN AGORA
RESULTS OF EXCAVATIONS CONDUCTED BY
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VOLUME IV
GREEK LAMPS AND THEIR SURVIVALS

By RICHARD HUBBARD HOWLAND

In this publication of the terracotta lamps found in the Athenian Agora dating from the 7th century to 86 B.C. a new series of types is established. Early Roman lamps which are survivals of Hellenistic forms are included in the fifty-eight types and sub-divisions. These types are based on a study of many hundreds of lamps found in the excavations, only a selection of which are here catalogued. After an Introduction summarizing conclusions on lamp-makers, lamp types and inscriptions, the material is arranged by type. For each type the characteristics are described in detail and notable foreign connections are indicated; a brief catalogue of examples follows. Signed bases are given special attention. An Index of the dated deposits from which the lamps came and which yielded so much evidence for the chronology, a concordance listing the types of many lamps not catalogued, and a concordance of Broneer and Agora types are added. The plates include photographs of most of the catalogued items and full-sized profiles of many, plus drawings of all graffiti and signatures.

The unusually precise evidence for chronology offered by the Agora lamps makes this volume of outstanding value to the field archaeologist. The new detailed typology will be of great service to all to whom lamps of Athenian manufacture are of concern whether directly or indirectly. Epigraphers will appreciate the prosopography in the numerous signatures. In the broad historical picture, moreover, these lamps veritably shed welcome light on trade relations between Athens and other Mediterranean centers, on the financial situation in Athens in certain periods, as well as on the artistic interests and tastes of the populace.

Published June, 1958. ix + 252 pp., 56 pls., chart. Quarto. Cloth. \$12.50.

VOLUME III
LITERARY AND EPIGRAPHICAL TESTIMONIA

By R. E. WYCHERLEY

Here are presented all the ancient written references, both literary and epigraphical, to the agora (including its environs) and its monuments. The Introduction summarizes chronologically the authors cited, evaluating the contributions of each. The texts are given in the original Greek or Latin, followed by a translation and a commentary. They are grouped in parts: the Stoas, Shrines, Public Buildings and Offices, Market, Honorary Statues, Miscellaneous including Boundaries, Trees, Kerameikos, Panathenaic Street, Old Agora. Within each part the monuments are arranged alphabetically and under each monument the texts are listed alphabetically by author with inscriptions at the end. Many texts not given numbers in this order are included in the archaeological and topographical commentaries. Each section on a monument opens with a brief synopsis of the evidence contained in the texts which follow. The Index of Authors gives dates and editions as well as passages and inscriptions cited and is followed by an Index of Subjects. The plates show plans of the agora and its environs and of the route of Pausanias.

This collection of texts concerning a site of prime artistic, philosophical and political importance will fill a need long felt by students of all phases of the ancient Greek world. Its range in time (from the earliest written references in the 5th century B.C. through the Byzantine writers and lexica of as late as the 15th century), its completeness (many obscure texts are here available and epigraphical material found in the Excavations of the Athenian Agora up through the summer of 1957 are included), and its judiciously selected archaeological commentary make this volume invaluable not only as handy reference to the texts but equally for an understanding of the significance of those texts, which must be studied in connection with the results of the excavation of the area to give the true picture of its place and meaning in the history of civilization.

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